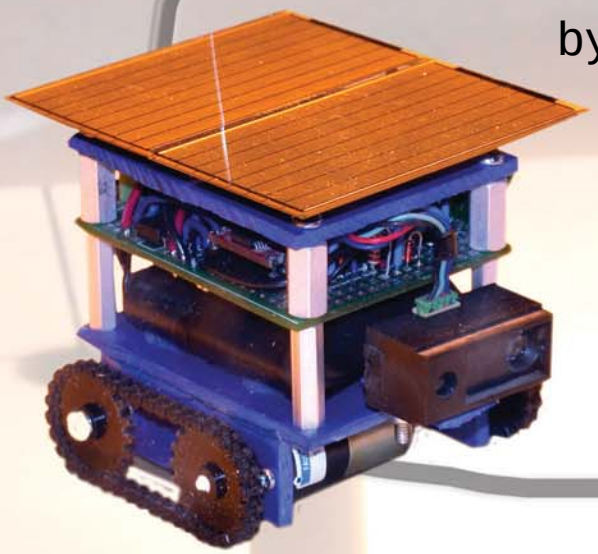
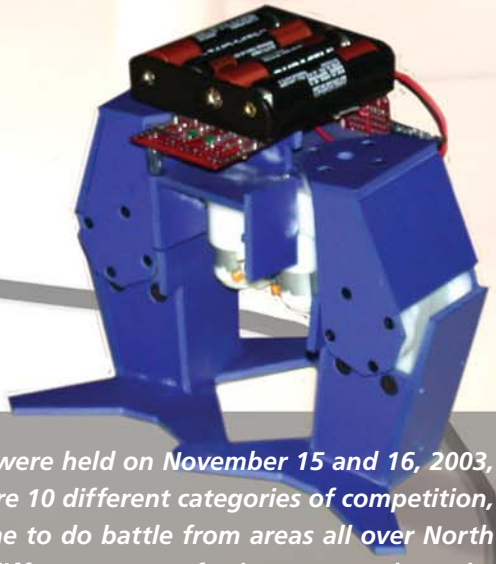
The Eastern Canadian Robot Games

by Karl Williams





The Eastern Canadian Robot Games (www.robotgames.ca) were held on November 15 and 16, 2003, at the Ontario Science Centre in Toronto Canada. There were 10 different categories of competition, with 150 robots created by close to 200 competitors who came to do battle from areas all over North America. There was a wide range of competitions from four different types of robot sumo, where the robots competed to push each other out of a ring, to firefighting, where robots searched through a maze to extinguish small candles. The purpose of the robot games is to for people have fun working with robotics, which is a great bridge to all areas of science and technology. It gives them a chance to get experience with electronics, programming, design and mechanical construction by building real working robots that accomplish goals.

It was an exciting event with two new categories added to the already challenging areas of competition from last year. There was a new Line Following event and a new Masters Mini-Sumo category. Also new this year was a cash prize of $250.00 cdn for first place in the Masters Mini-Sumo and Fire Fighting (WellHead Blowout) competitions. The Sumo events were held in a large auditorium packed with many enthusiastic spectators watching the action on three sumo rings. There were also some interesting robots among the entries in the Art and Innovation category with a pneumatic walking robot chair, a tank style robot that fires tennis balls on command, and a miniature solar powered robot that lives independently in a sealed aquarium.

If you are feeling brave enough to subject your robot creations to competition at next years Eastern Canadian Robot Games, I have given a brief description of the categories.

EASTERN CANADIAN ROBOT GAMES

Robot Sumos face off for battle in the main arena.

Fire Fighter

The objective is to build a computer controlled Robot that can move through a model structure, find a "burning oil derrick"(lit candle) and then extinguish it in the shortest time subject to a few operating factors. This is meant to simulate the real-world operation of a robot performing a fire extinguishing function in an oilfield or home.

Mini Sumo

Within a 10cm square column, build a robot sumo wrestler weighing under 500 grams to compete against other Mini-Sumo Wrestlers in a 77cm ring.

A pneumatic walking robot is demonstrated to amazed onlookers.

Remote Control Sumo

This contest pits your creation against another robot in a field of combat where brute strength and cat-like reflexes combine to create the ultimate battle. The challenge is to create a robot whose sole purpose is to push, throw, flip, drag, or otherwise move your opponent out of a five-foot diameter circular ring within three minutes. This competition is the most popular of the events, both to watch and to participate in.

Photovore

Build a device that is self contained, solar powered, and goal seeking. Its' physical dimensions must fit within a 150mm(6") cube. Your only power source is a solarcell with a maximum area of 2442 mm2 (3.79 in2). The robot competitor will have to face off against other devices in a well-lit competition area, having to avoid obstacles and race to the middle. Once there have your robot dominate the light pool until the end of the 5-minute round.

Things are really heating up in the fire fighting maze.

Solaroller

Given a maximum solar cell size of 806.5 mm2 (1.25 square inches), build a self-starting 150mm (6") robot dragster to race one meter (3.3 feet) in full sunlight (or 1,000 watts Halogen lighting). Competitors will race each other down parallel 150mm (6") wide lanes. That robot that is the fastest to finish, or travel the furthest in 3 minutes wins.

Art and Innovation

Build a robot along aesthetically pleasing lines that does something deliberately by itself. The robot does not need a purpose other than being a work of art. If you come up with something innovative but not meant for the other competitions then enter in this category.

Walker Triathalon

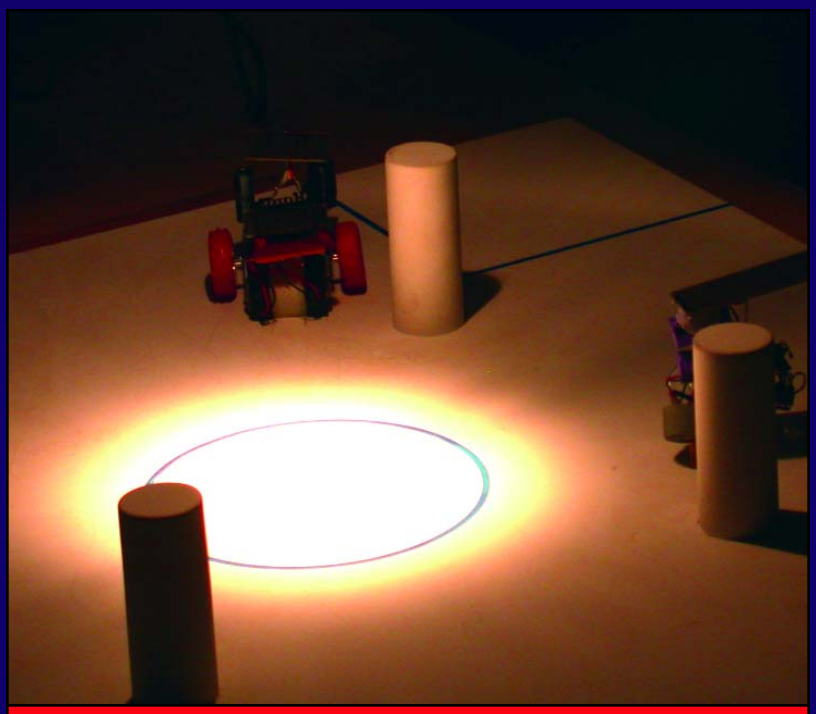
Legged robots face off against each other in speed/progress/ability challenges over various rough but equal terrains. Robots are awarded points based upon their ability to handle the broadest range of challenges. Competitors that accumulate the most capability points win.

Line Following

The Line Follow is a classic robot competition. The robots can use microprocessor control or simple digital or analog control systems. This event is intended to showcase basic sensor design and robot control systems in the form of small autonomous robots that must follow a black line over a white surface. Points are awarded based upon the distance covered and the speed of the overall robot. SV

An innovative combat robot fires tennis balls at spectators.

A fire fighting robot searches for a burning oil derrick (candle).



Mini Photovores race to dominate the light pool.

A well-designed robot cleans up in the line following competition.