

# Summer Explorations 2004

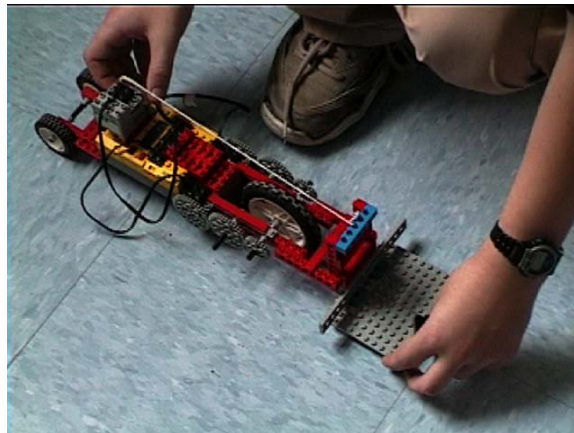
A week long summer academy for grades 5-9

Session One: June 21-25, '04

Session Two: June 28- July 2, '04

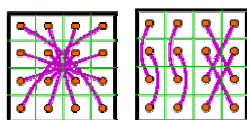
Session Three: July 12-16, '04

The program is held at the Mabel I Wilson School and focuses on two hands-on activities: **robotics** and **puzzles**. Student reflection on these activities is fostered by **journal writing**, **LOGO programming** and **interactive multimedia software design**.



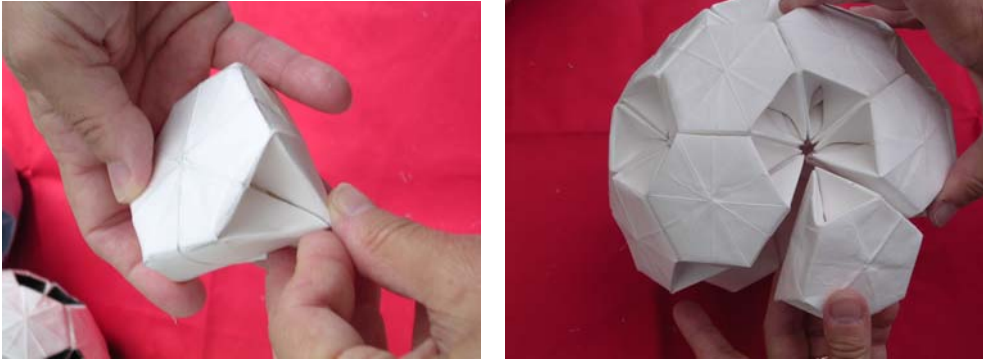
## ROBOTICS

Using the LEGO® MindStorms materials, students work in groups of two in the robotics lab. Robotics lets students use ideas from engineering and mathematics to build vehicles, intelligent machines, scientific tools, and interesting displays. The Lego Robolab equipment includes gears, lamps, motors, sensors, many structural and connecting parts, and RCX's - small computers that are built right into projects. Once students construct a project, they can program its behavior and interactions with the environment. Using Lego parts, students have made cars that follow painted paths or beams of light, devices that browse their surroundings and collect data, acrobatic vehicles that can flip and turn, and kinetic sculptures. The list is practically endless.



## PUZZLES AND PROBLEM SOLVING

Using a variety of mental and manipulative puzzles we help students understand the logic of puzzles and we help cultivate good



habits for problem-solving. For a well-rounded education, it is important that students develop the ability to discover new truths on their own. Students learn the key aspect of the math-art connection, both concern space, and patterns or structures in space. Both math and art involve aesthetics in a hard to define manner, that involves much subjectivity.



## INTERACTIVE MULTIMEDIA SOFTWARE DESIGN

Logo was designed by a team from MIT to introduce children to programming concepts, and to develop better thinking skills that could be transferred to other contexts. Logo is a language for the teaching of mathematical ideas to children through computer programming. It is intended to be easy to learn, easy to use, easy to read, but also powerful and able to cope with complex problems. The spokesperson for this language is Seymour Papert. The slogan for Logo is "a language for learning." There is a double



meaning behind this slogan. First, Logo is a language for learning to compute, or "program a computer" (Logo Thinking). Second, Logo is a language to make computing as simple as possible to understand for the user (Learning with Logo). At Summer Academy we use MicroWorlds Project Builder™ for Logo. It has so many features that allow the student to create lifelike animation that it never grows stale.

## JOURNAL WRITING

Fostering reflections on their own learning is one of the major goals for students of the Summer Explorations Program. Writing is one of the most difficult tasks for the students. Their writings are used in the web development portion of the camp.

## SCHEDULE

The camps run from 8:00 a.m.-5:00p.m. at the Mabel I Wilson School

Tuition: \$250

For More Information contact Eva Szillery ([eva.szillery@maine.edu](mailto:eva.szillery@maine.edu)) or Bill Landis at the Cumberland Department of Recreation at (207) 829 2208

# FACULTY

## Senior Faculty:

Max Crain works as Technology Coordinator, Robotics and Interactive Multimedia Software Design and Programming Instructor. He is a long time collaborator with Seymour Papert

Rick Eason, a professor of Electrical and Computer Engineering has been academic advisor of the Summer Explorations Program a life long puzzle collector and puzzle designer.

Eva J. Szillery, the founder and director of the MMSETS program, is the academic director of the Summer Explorations Program and a long –time collaborator of Seymour Papert.

## Junior Faculty:

Michael-John Tavantzis was the winner of the MMSETS Program in 2001. Michael-John, a junior at Boston University, holds an Academic scholarship and is on the Dean's list. He is a junior instructor of the Summer Explorations Program.

Scott Wheaton participated in the MMSETS Program and has been junior instructor at the Summer Explorations Programs in Interactive Multimedia Software Design and Problem Solving and Puzzles. Scott is a Beta tester for Microsoft and the youngest participant chosen for the Interactive Multimedia Software Design Workshop'03 at Columbia College Chicago.

Arash Yazdanbaksh is a graduate student of Stephen Grossberg at Boston University in Mathematics, Cognitive and Neural Systems and Biomedical Engineering. While in high school, Arash participated in the Mathematical Olympiad. He became a physician but always kept his love of mathematics. He has returned to school to pursue a Ph.D.



**2004 Registration form for the Summer Academy Program in  
Puzzles and Problem Solving, Lego Robotics and Interactive  
Multimedia Software Design**

Student's Name..... **WEEK OF 6/21-6/25 [ ]**  
**WEEK OF 6/28-7/2 [ ]**  
Address..... **WEEK OF 6/12-6/16 [ ]**  
.  
City, State, Zip..... **Check or Money Order**  
**enclosed for \$250/week**  
**Send to: Cumberland**  
Adult Contact..... **Department of Recreation**  
**209 Tuttle Road Cumberland, ME 04021**

Phone Number.....cell.....(daytime) .....(evenings)

School for 2003-04 school year.....

Grade as of fall 2004.....

**NOTE: IF YOU HAVE QUESTIONS PLEASE CONTACT WILLIAM LANDIS AT  
THE CUMBERLAND RECREATION DEPARTMENT (207) 829 2208**

With questions regarding the academic content of the program please contact Eva Szillery at [eva.szillery@maine.edu](mailto:eva.szillery@maine.edu)

- A medical information form and an emergency contact form will be required prior to the start of camp and will be sent to each camper prior to the start of the session.
- Registration is on first come-first served basis
- We follow the cancellation policy of the Cumberland Department of Recreation