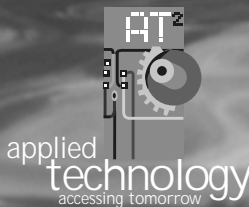


# *Berkshire Robotics Challenge 2006*



## **OCEAN ODYSSEY**

*March 18, 2006  
Lenox Memorial High School*



Sponsored by BERKSHIRE APPLIED TECHNOLOGY COUNCIL, INC.  
and presented with major support from  
GE Plastics



The BERKSHIRE ROBOTICS CHALLENGE  
is sponsored by  
***The Berkshire Applied Technology Council, Inc.***  
and once again presented with *major* support from:  
GE Plastics

### ***Team Sponsors***

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GE Plastics  
General Dynamics  
Southern Berkshire Education Collaborative  
Berkshire Community College  
Lenox Memorial High and Middle School PTO  
Craneville PTO  
St. Agnes School  
Herberg Middle School  
Farmington River Elementary School  
Flying Cloud Institute  
Monument Mountain Valley Regional Middle School  
Berkshire Health Systems  
and  
Proud Parents!

## Introduction

The Berkshire Applied Technology Council, a consortium of Berkshire County industry and education leaders, is proud to be a sponsor of the Seventh annual Berkshire Robotics Challenge. The 2006 Challenge is entitled ***Ocean Odyssey***. FIRST LEGO Teams will travel into the depths of the ocean to explore the mysteries that lie below. The premise of this year's challenge is to deploy a submarine, conduct a transect mapping and protect and repair a pump station...all for sustaining the health, biodiversity, and productivity of the world's oceans for present and future generations.

A key aspect of the BATC mission is to provide educational programs that assist in developing our county school children for the high technology world in which they will be working. In addition to students developing their technical skills through hands-on learning, they also learn to work in a team environment. They share their ideas, skills, and enthusiasm to make this a fun and exciting project in addition to being an exceptional educational program.

There are important roles for every student to play, from the computer masters to the logicians and mathematicians, to the artists and the writers. Teams are required to develop all aspects of the robotics program, from building computer models and software programming to fundraising, public relations, and mechanical design work. Students generally range in age from 8 to 14. The competition promotes gender equality in mathematics and science. The physics and computer programming principles that are involved are often integrated into the schools' science curriculums. Parents participate at every level as coaches, mentors, team assistants, and fans.

Activities such as the Berkshire Robotics Challenge are an important landmark on BATC's road of lifelong learning, known as TechPath. In our high schools, TechPath is a formal curriculum focused on math, science, English and computer studies. At Berkshire Community College, students can continue on TechPath, electing engineering, applied engineering technology, computer electronic technology, or computer information technology degree programs. Several scholarships are provided for these studies by both private and industry donors. Talk to your high school guidance counselor or principal to learn more about these programs or call the BATC office at 413-499-4660, ext 386.

Meanwhile, the best part of the annual Berkshire Robotics Challenge is the way it integrates fun into learning. The challenge is on! The competition is fierce! The enjoyment unlimited!

William M. Hines, President  
Berkshire Applied Technology Council, Inc.

***And Many, Many Thanks To...*** \_\_\_\_\_

Al Saldarini and the Lenox Memorial High School Tech Crew  
Lenox Police and the Lenox Police Explorers  
Best Impressions  
Crane & Co., Inc.  
Quality Printing  
Big Y Supermarkets  
Coca Cola Bottling Company of Pittsfield  
Hold the Anchovies  
Juice 'n Java  
Morningside Bakery  
Stop & Shop

***And Especially To*** \_\_\_\_\_

The coaches!

Without your imagination, persistence and resourcefulness, none of this would be possible year after year.

***Tournament Support Staff*** \_\_\_\_\_

Thomas Ozga  
Joe Gove  
Greg Owen  
Rich Rowe  
Zach Rowe  
Andrew Crane



## ***Judges and Inspectors*** \_\_\_\_\_

Bob Gove, Husky Injection Molding

David Owen, Domeware Data Systems

## ***Referees*** \_\_\_\_\_

Bruce Collina, Craneville School

Bob Vaughn, Morris Elementary School

Elizabeth Roberts, Monument Mountain Regional High School

Bob Gove, Husky Injection Molding

Dana Roy, Buxton School

Stephen Stroud, Pine Cobble Elementary School

## ***Scorekeeper*** \_\_\_\_\_

Kevin Bourassa, Interprint

## ***Masters of Ceremonies*** \_\_\_\_\_

Cheryl Tripp-Cleveland of Radio Station WBRK In Pittsfield

John Williams

## ***Planning Committee*** \_\_\_\_\_

John Wood, GE Plastics

Doug Crane, Crane & Co., Inc.

Lee Flournoy, Attorney at Law

Bob Gove, Husky Injection Molding

Denise Jezak, Morris Elementary School

Bernie Klem, Gargan Communication

Sandra Zink, Interprint, Inc.

Dorothy Curtiss, General Dynamics Advanced Information Systems  
and

Denise Johns,

Berkshire Applied Technology Council & Berkshire Community College

## ***Pit Area and Team Coordination*** \_\_\_\_\_

GE Plastics Elfun Society

## *Overall Schedule*

<b>TIME</b>	<b>DESCRIPTION</b>
7:45–8:00 am	Arrival
8:00–9:00 am	Registration, Inspection and Practice
9:15–9:20 am	Opening Comments
9:20–9:40 am	Presentation by Ronadh Cox, Williams College
9:50–10:15 am	Challenge Round 1
10:25–10:50 am	Challenge Round 2
11:00–11:25 am	Challenge Round 3
	Break
11:45–12:30 pm	Great Eight Playoff
12:30 pm	Awards Presentation and Closing

# ***Inspection, Practice & Competition Schedule*** (by Team)

Team Name	Inspection Time	Practice Session Time	Round 1 Time	Round 2 Time	Round 3 Time
<ul style="list-style-type: none"> <li>■ Bulldozing Barracudas</li> <li>■ Shark Stars</li> <li>■ Toy Soldiers</li> </ul>	8:00 am to 8:05 am	8:10 am to 8:20 am	9:50 am to 9:55 am	10:25 am to 10:30 am	11:00 am to 11:05 am
<ul style="list-style-type: none"> <li>■ Lenox Panthers</li> <li>■ S.S. Robotics</li> <li>■ Girls Gizmos &amp; Gadgets</li> <li>■ Orca 1</li> </ul>	8:05 am to 8:10 am	8:20 am to 8:30 am	9:55 am to 10:00 am	10:30 am to 10:35 am	11:05 am to 11:10 am
<ul style="list-style-type: none"> <li>■ Titanium Tigersharks</li> <li>■ Craneville Creators</li> <li>■ Gearz</li> </ul>	8:10 am to 8:15 am	8:30 am to 8:40 am	10:00 am to 10:05 am	10:35 am to 10:40 am	11:10 am to 11:15 am
<ul style="list-style-type: none"> <li>■ Conte Cougars</li> <li>■ Kontrollled Kaos</li> <li>■ Happy Fun Sub</li> </ul>	8:15 am to 8:20 am	8:40 am to 8:50 am	10:05 am to 10:10 am	10:40 am to 10:45 am	11:15 am to 11:20 am
<ul style="list-style-type: none"> <li>■ Cyber Stingrays</li> <li>■ Lego Legends</li> <li>■ Clarksburg Cougars</li> <li>■ Orca 2</li> </ul>	8:20 am to 8:25 am	8:50 am to 9:00 am	10:10 am to 10:15 am	10:45 am to 10:50 am	11:20 am to 11:25 am

## ***Qualifying & Seeding for Tournament***

Each team competes in all three rounds and the two (2) highest scores will be added together for the team total for tournament qualifying & seeding. The lowest score of the three rounds will not be used.

### **Single Elimination Tournament**

Great Eight – Round 1	11:45 pm
Great Eight – Round 2	11:55 pm
Semi-finals	12:10 pm
Finals	12:20 pm
Awards Ceremony	12:30 pm

# Great Eight Tournament

Quarterfinals 11:45 am	Quarterfinals 11:55 am	Semifinals 12:10 pm	Finals 12:20 pm	Awards Ceremony 12:30 pm
1 <sup>st</sup> Seed vs. 8 <sup>th</sup> Seed & 3 <sup>rd</sup> Seed vs. 6 <sup>th</sup> Seed		Winner of 1 <sup>st</sup> vs. 8 <sup>th</sup> vs. Winner of 4 <sup>th</sup> vs. 5 <sup>th</sup>	Finalist vs. Finalist	Presentation of Team Performance Awards
	5 <sup>th</sup> Seed vs. 4 <sup>th</sup> Seed & 7 <sup>th</sup> Seed vs. 2 <sup>nd</sup> Seed	Winner of 3 <sup>rd</sup> vs. 6 <sup>th</sup> vs. Winner of 2 <sup>nd</sup> vs. 7 <sup>th</sup>		

## Notes

- Qualifying for the Great Eight tournament and 1st through 8th seeds are determined based on the highest cumulative scores from Round I, II and III (Best 2 of 3 scores)
- Ties within the top eight will be settled based on highest Round III score to determine 1st through 8th seedings.
- Any ties to determine entry into the Great Eight Tournament (i.e., multiple teams tied for 8th place) will be settled by a playoff immediately after Round III.
- Any ties occurring within the Great Eight Tournament will be settled by a playoff immediately after the round in which the tie occurs.

## And Remember...

Many of the awards are available to teams that do not make it into the Great Eight Playoff. There will be awards for the following:

- **Performance Champion**
- **First Runner Up**
- **Semi-Finalist (2)**
- **Sportsmanship & Team Spirit**
- **Against All Odds:** for the team that manages to compete despite encountering numerous obstacles
- **Comeback Kids:** for the greatest increase in points between first and third rounds
- **Best Mechanical Design**
- **Most Innovative Design**
- **Best Programming**
- **Rookie Team of the Year**

## ***Important Reminders...***

- Coaches are responsible for the whereabouts and behavior of their team members at all times. Teams may remain in the pit area and watch the competition by remote feed, or go into the theater, as long as they stay seated while others are competing.
- Do not use flash cameras in the theater. I repeat, **DO NOT USE FLASH CAMERAS IN THE THEATER**. The flash interferes with the infrared sensor on the robots and can ruin the robot's programming. This also applies to video cameras which use infrared when recording.
- Do not allow toddlers in the pit area (cafeteria) unless accompanied by an adult.
- Neither food nor drinks are allowed in the theater under any circumstances at any time.
- Team members are only allowed in the cafeteria, theater, adjoining theater room, and hallways leading to bathrooms. All other areas are restricted.
- All food and drinks must be consumed in the cafeteria only.
- Teams are responsible for cleaning up their area after eating.
- Team members are only allowed on the stage when their team is competing. Only two team members are allowed on level with the playing table. Coaches stay on the stage. Teams will line up on deck waiting to compete between the registration area and the stage.
- Sound and light booths and camera areas are off limits to all.
- Decisions of the inspectors, referees and judges are final.

***Have Fun!***

## About Our Guest Speaker

### Ronadh Cox

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Ronadh Cox is an associate professor in the Department of Geosciences at Williams College and chair of the Williams Program in Maritime Studies.

Dr. Cox has done a great deal of professional research in the fields of sedimentary petrology, geochronology, and tectonics, and has lately also become interested in planetary geology. Her most recent projects include the geochronology, sedimentology and

tectonics of Proterozoic rocks in Madagascar, investigations of large-scale recent erosion in Madagascar, and experimental and image-analysis examination of the origin of chaos terrain on Europa, one of the largest of Jupiter's many moons.

At Williams College, she has taught courses in Oceanography, Geochemistry, Sedimentation, Climates Through Time, and Environmental Geology and the Earth's Surface. Prior to coming to Williams in 1996, her professional career included stints at the University of Illinois at Urbana-Champaign, Rand Afrikaans University in South Africa, and California State University at Hayward, Calif.

Dr. Cox has authored or co-authored some 50 publications and abstracts on a wide range of geoscientific topics, and has procured more than \$500,000 in grants and awards to fund her research.

She earned a bachelor's degree with honors from Ireland's University College Dublin, majoring in Geology with a minor in Evolutionary Biology. She later earned her Ph.D. in Geology from Stanford University in California.

# Ocean Odyssey



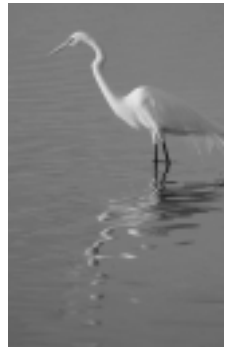
Our oceans are of vital importance to the health of the Earth, yet only 1% percent of these magnificent bodies of water has been studied. We have explored space more than our oceans.

Oceans provide us with many resources and activities — from the fish we eat and oil drilled from the ocean floor, to extracts from seaweed used to make ice cream.

The oceans provide a wide, navigable highway for the shipping industry, and an underwater playground for activities like scuba diving.

Oceans fuel this planet's most vital ecological processes, like the water cycle, and the carbon-dioxide cycle. Living oceans absorb carbon dioxide and pump oxygen into our atmosphere, thereby sustaining the planet's diverse flora and fauna — yet we know very little about how we are impacting this important resource.

This year's Berkshire Robotics Challenge encourages our young students to learn more about marine science and to look for strategies that will sustain the health, biodiversity, and productivity of the world's oceans for present and future generations.



# Teams

## ***Lenox Memorial Middle & High School*** \_\_\_\_\_

Bulldozing Barracudas

**Team Members:** Max Dakin, Lizzie Wilkerson, Ben Spear, Ethan Lillie, Nick Frost, Zack Sutton, Chris Davis

**Coaches:** Liz Jackson, Barbara Frost, Mike Jackson

**Sponsors:** Southern Berkshire Education Collaborative, Berkshire Community College, Lenox Memorial High and Middle School PTO

Lenox Panthers

**Team Members:** Nicole Pandell, Ian Sullivan, Walden Riedel, Katie Delasco, Levi Brown, Jared King

**Coaches:** Kyle King, Charlie Farrell

**Sponsors:** Southern Berkshire Education Collaborative, Berkshire Community College, Lenox Memorial High and Middle School PTO

Toy Soldiers

**Team Members:** C.J. Bianco, Luke Haskell, Chris DeFarlo, Willy Nappo, Jimmy Zuber, Tucker Roche, Scott Graham, Shaun Baczek

**Coach:** Michael Bianco

**Sponsors:** Southern Berkshire Education Collaborative, Berkshire Community College, Lenox Memorial High and Middle School PTO

## ***Adams Memorial Middle School*** \_\_\_\_\_

Kontrolled Kaos

**Team Members:** Jason Jennings, Nate Czerwinski, Truman Chojnowski, Dylan Alibozek, Alex Hart, Nate Pitoniak, Ryan Raimer, Patton Linder, John Murray

**Coaches:** Anthony Hart, Peter Gutmann, Matt Gutmann, Shaun Jennings

**Sponsor:** General Dynamics AIS

## ***Nessacus Middle School*** \_\_\_\_\_

Girls, Gizmos, and Gadgets

**Team Members:** Katherine Wood, Marion O'Brien, Kate Silfer

**Coaches:** Kristin Wood, Charlotte Crane

**Sponsors:** GE Plastics

## ***Morris Elementary School*** \_\_\_\_\_

Shark Stars

**Team Members:** Alex Pratt, Alex Novotny, Jenny Delasco, Joshua King, Kathy Prescott, Beth Prescott, Nick Reynolds, Andrew Woodger, Garron O'Conner, Billy Nutbrown

**Coaches:** Tom Delasco, Kyle King

**Sponsors:** Southern Berkshire Education Collaborative, Berkshire Community College, Lenox Memorial High and Middle School PTO

## ***Craneville Elementary School*** \_\_\_\_\_

Craneville Creators

**Team Members:** Mitchell Salvini, Josh McAdoo, Michael Friedman, Tiffany-Rae Robinson, Sarah Friedman, Dustin VanFleet, Troy Baroli, Sarah Harvey, Caleb Hall, Clark Cone

**Coaches:** Jon Friedman, Peter Bell

**Sponsor:** Craneville PTO

Orca 1 — Craneville

**Team Members:** Curran Doyle, Brandon Reder, Johnno Bracci, Stacey Tutela, Tim Desmaris

**Coaches:** Rich Tutela, John Bracci, Richard Peters

**Sponsors:** GE Plastics

Orca 2 — Craneville

**Team Members:** Nick Kasala, Nick Tutela, Bizzy King, Sean Peters, Dylan Sickell

**Coaches:** Rich Tutela, John Bracci, Richard Peters

**Sponsors:** GE Plastics

## ***Herberg Middle School*** \_\_\_\_\_

S.S. Robotics

**Team Members:** Cara Maiorano, Owen Marks, Krista Lohr, Dillon Bissell, Chad Civello, Sean Taillefer, Ryan Swail, Rachel Shunamon, Allie Sibner

**Coaches:** Wendy Stebbins, Stacia Bissell, Terry Taillefer

**Sponsor:** Herberg Middle School

## ***Clarksburg Elementary School*** \_\_\_\_\_

Clarksburg Cougars

**Team Members:** Cody O'Neil, Cody Remilard, Bryanna Malloy, Jenna Toemey, Morgan Valoise, Brodey Moran, Alex McKinney, Kelsey Malloy

**Coaches:** Brenda Johnson, Audrey Witter

**Sponsor:** GE Plastics

## ***Farmington River Elementary School*** \_\_\_\_\_

Cyber Stingrays

**Team Members:** Michael Cooley, Tyler Light, Joe Field, Kenny Packie, Logan Morton, EV Kuzmech, Haiden Vanrumund, Jayson Farina

**Coaches:** Laurie Flower, Carol Blakeslee

**Sponsor:** Farmington River Elementary School

### ***Undermountain Elementary School*** \_\_\_\_\_

Titanium Tigersharks

**Team Members:** Blake Ferrara, Matt Fosbey, Taylor Garrett, Trudy Hall, Miranda Hosier, Josh Ibanez, Amanda Johnston, Nathaniel MacKenzie, Aaron Martin, Emma Sands-Berking

**Coaches:** Susan Cooper, Katherine McSpirtt, Jasmine Carpenter

**Sponsor:** Flying Cloud Institute

### ***Monument Mountain Valley Regional Middle School*** \_\_\_\_\_

Gearz

**Team Members:** Thor Murray, Alison Lee, Jonathan Olds, Ryan Salame, Emma D'Allesio, Michael David

**Coach:** Donna Astion

**Sponsor:** Monument Mountain Valley Regional Middle School

### ***St. Agnes School*** \_\_\_\_\_

Lego Legends

**Team Members:** Justin Schnopp, James Schmidt, Karl Schmidt, Mat Lam, Patrick Meunier, Andrew Mara-Williams, Alex Iwanowicz, Justin Peterson

**Coaches:** Karen Schmidt, Donald Hall, Ted Williams

**Sponsor:** St. Agnes School

### ***Conte Middle School*** \_\_\_\_\_

Conte Cougars

**Team Members:** Ashley Reyes, Alex Derby, Benig Suarez, David White, Ashley Perry, David Kerwood, Jose Ortiz, Ryan Shilling, Adam Bessette

**Coaches:** Stephen Capeless, Lorrie Delmolino, Sue DuBois

**Sponsor:** Berkshire Health Systems

### ***Neighborhood Team*** \_\_\_\_\_

Happy Fun Sub

**Team Members:** Nick Bolognia, Enrique Bouvier, Jeremy Tonelli-Sippel, Josh Harrington, Alex Harrington, Zack Harrington, Ian Stankiewicz, Nick Dastoli, Tim Bolognia

**Coach:** Stephanie Dastoli

**Sponsors:** Families of the participants!

# Mission Objectives and Scoring

Scoring maneuvers can be conducted in any order and not all maneuvers are required. The points will be awarded for successfully accomplishing any or all of the following:

MISSION	OBJECTIVE	POINT VALUE
<b>Deploy the Submarine</b>	The robot must get onto the Research Vessel and put the Submarine overboard from there. The Sub must be touching blue on the mat.	40 points (If the Sub is upright) 35 points (If not upright)
<b>Conduct a Transect Mapping</b>	To show the location of the ancient shipwreck, the robot must flip transect Flags up. Any number of Flags up at all (of any color) is worth 30 points, and each complete east/west row is worth an additional 15 points.	30 points (Any number of Flags up) 15 points (Each complete east/west row)
<b>Protect the Pump Station</b>	The robot must get the Protective Structure to straddle the Pump Station, with at least one of the Protective Structure's foot pads completely past the Pump Station's south wall.	40 Points
<b>Service the Pipeline</b>	The robot must install the new segment of pipe so that the team can test the line. When the segment is installed, the team must use hand force at the east end to raise the yellow flags.	The yellow flag raised is worth 40 points.
<b>Sample One Species From Among Others</b>	The robot must tag the grey Fish only. The grey Fish must be out of alignment with its location mark in some way and all green Fish must remain aligned with theirs.	This result is worth 35 points.
<b>Release the Dolphin</b>	The robot must get the Dolphin back into the ocean.	The Dolphin touching blue on the mat is worth 25 points.
<b>Decide About an Artificial Reef</b>	The robot must move the black structural debris either to shallow water, as an Artificial Reef, or to Base, as recyclable material.	The Reef touching shallow water or at Base is worth 40 points.
<b>Find and Recover Archaeological Artifacts</b>	The robot must get the Artifacts completely off the outline of the ancient shipwreck.	Off the outline for 25 points or back to Base for 35 points.
<b>Clean Up a Cargo Shipping Accident</b>	The robot must get the Shipping Container and its spilled Crates of plastic bags to Base so they don't harm any wildlife.	The Shipping Container at Base is worth 30 points.
<b>BONUS POINTS</b>	As Bonus Objects, all Crates are worth points anywhere on the table. When removing a Crate, the referee takes the one farthest west at that time.	Crates at Base are worth 5 points each. Crates on the table are worth 2 points each.

**Best Possible Score: 400**

## ***Join the Fun!***

Interested in forming your own school- or community-based team for next year's Berkshire Robotics Challenge? It's easier than you might think. Contact Denise Johns about how to get started.

Denise Johns  
Berkshire Applied Technology Council, Inc.  
413-499-4660 x386 • [djohns@berkshirecc.edu](mailto:djohns@berkshirecc.edu)



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