# The Robotics Laboratory at the University of Central Florida presents:



### An Autonomous Underwater Vehicle

## About Me

Name:
Class Standing:
Major:
Interests:

#### • Future Plans:

**Jacqueline Nelson** Senior **Electrical Engineering** Autonomous Robotics, CV, RADAR, Satellite **Systems** Graduate school, **Department of Defense** 

### Purpose

 Compete in AUVSI and ONR's 12<sup>th</sup> International Autonomous Underwater Vehicle Competition

 July 28<sup>th</sup> – August 2<sup>nd</sup>
 TRANSDEC, San Diego, CA

Learn!

Develop engineering teamwork skills
Gain "real" engineering experience

# The Team

Faculty Advisor: Daniel Barber



#### Jonathan Mohlenhoff

- -Team Leader
- -Undergraduate
- -Electrical Eng.



#### <u>Gary Stein</u> -Robotics Advisor

- -Graduate
- -Computer Eng.



<u>Jacqueline Nelson</u> -Undergraduate -Electrical Eng.



Cassondra Puklavage -Undergraduate -Electrical Eng.



<u>Michael Scherer</u> -Undergraduate -Computer Science

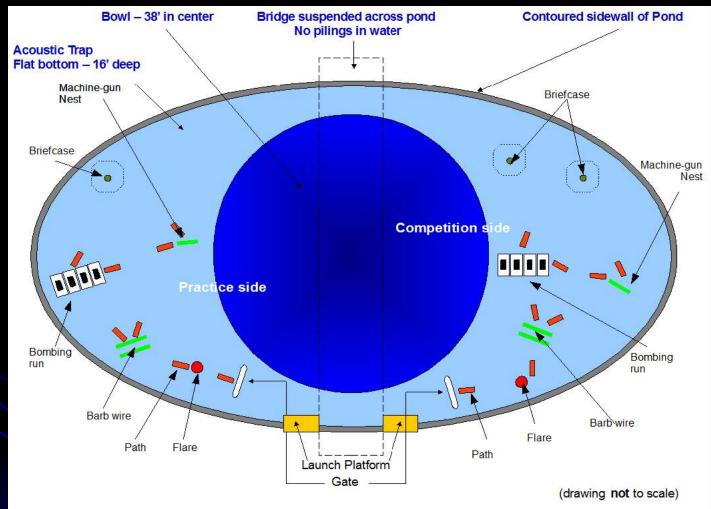


- <u>David Adams</u>
  - -B.S. Degree
  - -Computer Science

# The Site

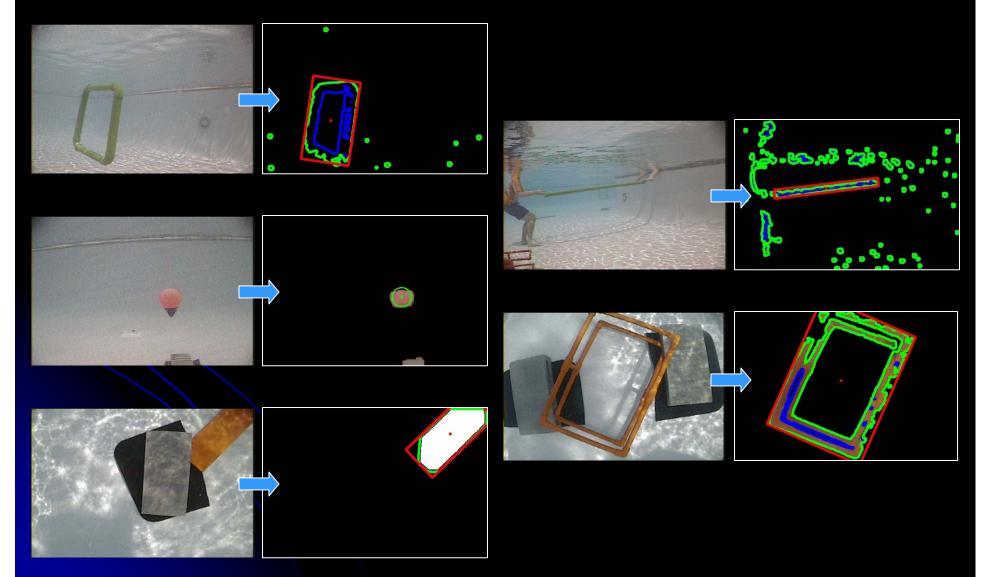


# **The Competition**

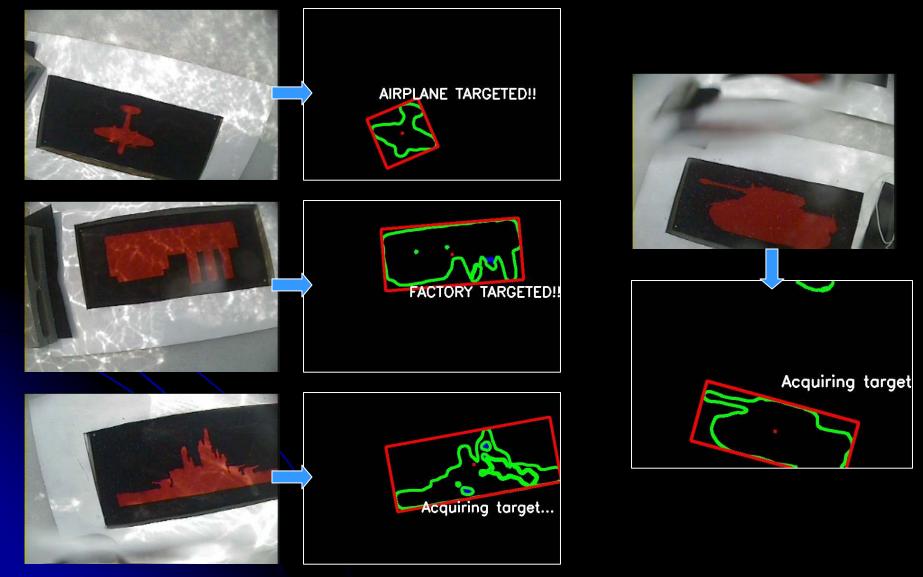


Day 2 Recap Video

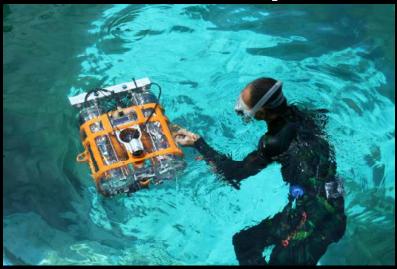
# Image Processing Results



# Image Processing Results cont.



# **Competition Images**







### After the Final Run



### **Final Standings**

#### 1<sup>st</sup> Place – Cornell University

#### 2<sup>nd</sup> Place – University of Victoria

#### 3<sup>rd</sup> Place – University of Rhode Island

#### 4<sup>th</sup> Place – University of Central Florida

# **Problems We Faced**

#### • Cameras!

Connectors, back-plane

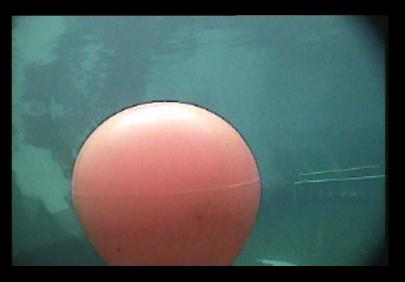
• Bright to overcast in 5 minutes or less.

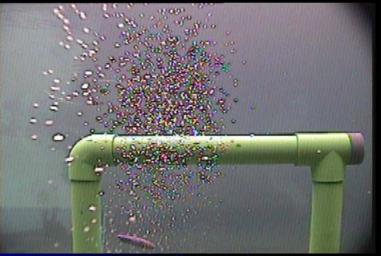
#### • Last minute changes before runs.

- Depth
- Ramming time
- Path search depth

Other teams had their share of problems as well.

### **Forward Sub Cameras**







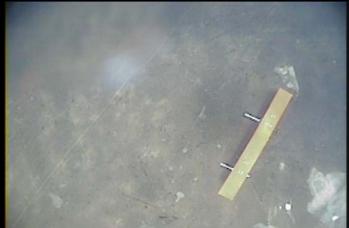


### **Downward Sub Cameras**









### **Other Sub Pictures**









### **Useful Links**

Competition:
 <u>www.AUVSI.org</u>

Robotics Lab at UCF:
 <u>www.robotics.ucf.edu</u>

SPAWAR/TRANSDEC:
 <u>http://enterprise.spawar.navy.mil/</u>