

AUGUST 2013

# ROBODOX

This month marked the official start of the 2013-14 school year! This past summer, team members spent time at PEAK Adventures LEGO Summer Camp giving a presentation and time working on the new Algalita project. Read about it, and more...

## Welcome back!

Welcome back to all returning veterans and welcome to all the new team members! This year, the team has 25 returning veterans and 21 new members. We look forward to working with each and every one of you!

## Summer "Radiologist Please Do Not Break" "In front of all these kids"

By Jake Mattinson

Edited by Jeffrey Lee

Over the summer, the 'Dox themselves were busy with summer assignments, swimming, and SAT classes, but the wonderful robots must have rested, right? On July 22nd, three members woke up "The Medic", team 599's robot for the 2013 FRC game Ultimate Ascent, so that they could enrich the next generation with the knowledge of competitive robotics. Once the crew arrived at the PEAK Adventures LEGO Summer Camp in Santa Clarita, they unloaded and got to see the kids building robots of various design,. The kids were using an adapted form of FLL for a two-week program. The team members quickly took a look over the process and commented that if they were still in middle school, this would be the place to be. The team went outside and set up. The sun was high and the temperature was triple digits, the lab coats shining brightly next to the uncontrollable smiles quickly inspired by the enthusiastic wave of children.



Jake explains how the students are going to "play catch with a robot".



The students got a hands-on experience: One student fired, another loaded, and a whole bunch of them went to catch!

As they approached, every single student and adult took a pair of safety glasses. “We thought it was necessary to teach them safety while immersing them into the

experience and also looking really official.” For the a few minutes, the students were able to listen to a speech about competitive robotics, engineering, and educational reference to the pneumatic pressure gauges.

Afterwards, member Jeffrey Lee invited the future engineers to “play catch with a robot”. The kids were given enough time to do all three major parts of robot operation: one line got to pull the trigger that shot off the Frisbees which another student would catch and return to the robot.



The kids were able to get a close look at the Medic and many asked about the different systems.

The third set of kids were able to load the Frisbees into the Medic, two at a time. For almost twenty minutes, the kids got to see how much fun creating a robot that can perform such complex tasks can be. They asked some more questions afterwards, and just as the group was about to go, the battery’s power fell below operable, and the Medic had to retire for a bit. As they were leaving, most of the kids went up to the crew, cheeks to their eyebrows, saying thank you. They returned their safety glasses and each received a Robodox pen for being so awesome. Three adults in charge of the camp thanked the team members for inspiring the children and teaching them a little bit about robotics in the process. The Robodox would like to thank Angela Bartholomew for inviting the team, Kelly Mattinson for transportation, and Mr. Chipps for taking valuable summer time to act as a substitute coach for a day. This event showed the members how powerful of an impact the team has in the engineers of tomorrow. Their happiness proved, as one of the presenters put it, “that what we are doing is right and helping the future.”

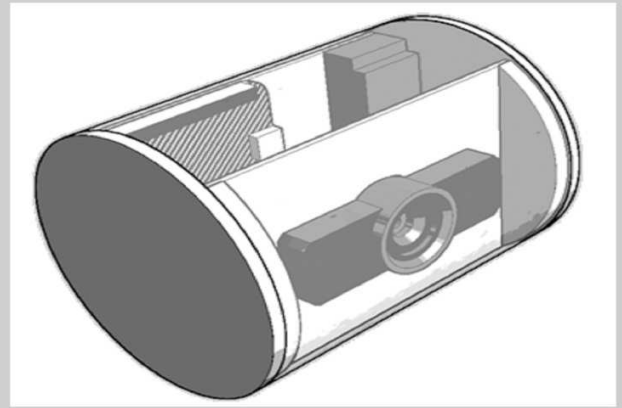
# Algalita ROV

By Adhikara Budhyhartono

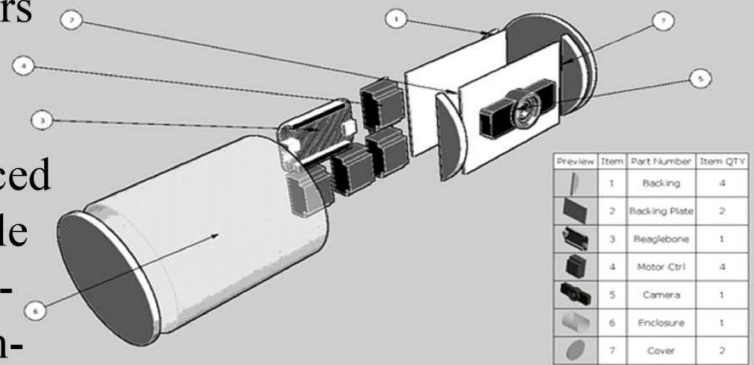
Edited by Jeffrey Lee

Over the summer, several members of the robotics team worked on a side project presented to us by mentors Mr. Siegert. The task was to develop a remotely operated vehicle, (ROV) which was small enough to be operated off the medium sailboat *Algalita* using the onboard power. Its purpose is to evaluate the plastic debris that has collected on the ocean floor in shallow regions. The ROV should be able to reach a depth of 50 feet and be equipped with a camera and lights that can pan up and down. The ROV would be tethered to a topside electronics assembly that would house the controls for the ROV.

The ROV is propelled by several motors and although currently designed with only a single camera and a few lights, sensors and other functions can be placed in the future through the use of a Beagle Bone microcomputer. The ROV's electronics have been purchased and assembled. The propulsion, frame, and pressure capsule have yet to be assembled.



CAD model of the electronics and camera compartment of the ROV



Expanded view of the CAD model

## Robodox Events:

*Robodox Annual Social- A great time for students, family members, and mentors to get to know one another! The park is located on 18300 Lemarsh St, Northridge CA 91324 and the team is meeting on the Reseda side of the park (Saturday, September. 14th).*

*Disney Youth Education Series- Learn about mechanical physics through interactive experiences Disney offers (Tuesday, October 8th).*

*Viewpoint VEX Competition- The team's first VEX competition at Viewpoint School in Calabasas (Saturday, October 19th).*

## For More Information, Contact:

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