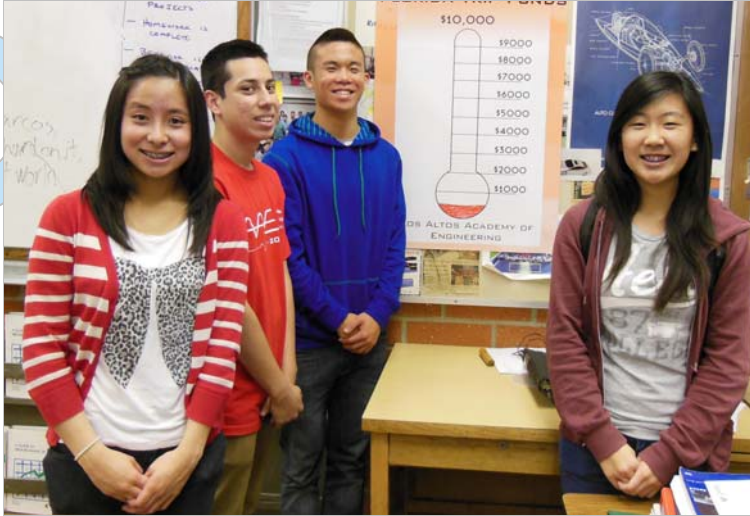


**LOS ALTOS ACADEMY OF
ENGINEERING**

BUILDING A CLEANER, MORE FUEL EFFICIENT TOMORROW



Donations are measured by a fundraising thermometer.

From left to right: Airi Fukushima, Jacob Barron, Patrick Young, and Connie Pung

Pulse Aiming for the Emerald Coast Electrathon

By: Airi Fukushima

The Los Altos Academy of Engineering has been working to prepare our electric vehicle, Pulse, for the Emerald Coast Electrathon race in Pensacola, Florida on April 27th. This year, the fundraising committee has been revived and has started the “Adopt-An-Engineer” fundraiser to support this project. This race will consist of two one-hour runs, and our goal is to race Pulse for thirty miles in an hour. Due to the fact that there are no local races, our team is determined to race at the Emerald Coast Electrathon. The traveling expenses will be roughly around \$10,000. For this goal to become a reality, the fundraising committee is currently raising funds to support our team and prepare for the race.

In order to raise \$10,000 before the race, the fundraising team has established a new fundraiser, called “Adopt-An-Engineer”. In this fundraiser, each member

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UPCOMING DATES

February 2: Robotics First Tech Challenge

February 6: Booster Club Meeting

March 16: Robotics Mini Urban Challenge

April 13: Open House

April 17: McDonald’s Fundraiser

April 20: Car Wash Fundraiser

April 27: Emerald Coast Electrathon

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from the program will participate as an engineer for donators to adopt. The donators may choose their own engineer or the fundraising committee can offer one. Once an adopter has donated to our project, he/she will have his or her name featured in the LAAE newsletter; receive a letter with a biography and picture of the engineer that was adopted, and receive a thank you letter.

The members of the fundraising team are Jacob Barron, Patrick Young, Connie Pung, and Airi Fukushima. Jacob is currently in mechanical team as well as the fundraising committee. He is working with Patrick as the spokesmen of the team. Connie and Airi have contacted LAAE alumni, such as Anna Wu and Robert Pfeffer in order to get advice in how to proceed. The fundraising committee has also presented to the Kiwin's Club, Rotary Club of Industry Hills, and Mr. Dickie Simmons, the field deputy for Don Knabe. As of current, the team has raised \$5,500 in total for this project.

By raising \$10,000 to help LAAE race at the Emerald Coast Electrathon, the fundraising committee will commit to helping the team by gaining support from the community and encouraging donations from various organizations. "Adopt-An-Engineer" fundraiser will be one of the greatest impacts in supporting this project. "Fundraising can be very hard work, but it pays off in the end," says Patrick.

The fundraising committee would like to thank all of our sponsors for their continued support and generosity. For further information about Project Pulse, the fundraising committee is available at laepublicrelations@gmail.com. For donations, our Booster Club Tax ID number is 27-0111547 at **Los Altos Academy of Engineering Booster Club**.

Steady Pulse

The improvements of the electric vehicle Pulse.

By: Brian Ku

The Los Academy of Engineering continues to work on Project Pulse, an electric vehicle in which students from LAAE want to race at 30 miles in an hour at the Emerald Coast Electrathon in Florida on April 27, 2013. This year, the Mechanical team has improved many of Pulse's parts including a new swing arm, king pin plate, king pin, triangular supports, cross member, and battery boxes. The swing arm is a mechanism that allows the car's tail to move and absorb bumps with suspension. However, it did not follow the Ackerman angle, a geometric arrangement that stops tires from slipping when turning. This disadvantage resulted in a power loss whenever Pulse made a turn during test drives.

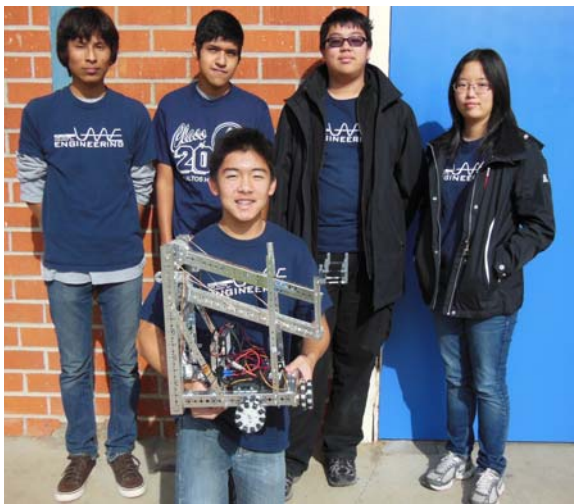


Pulse's chassis consists of welded steel bars. The car will require three 12Volt batteries to run.

A new king pin plate has been designed to allow for easier alignment adjustments, camber, and toe angle of the car. In order to prevent the kingpins from bending or even snapping, the diameter was increased. Triangular supports were

added to fortify the chassis. In case of a crash, the triangular support would lessen the chances of Pulse's frame collapsing. The cross-member of Pulse was also redesigned. The welded cross member was replaced with a bent tube cross member because superheating metal makes metal brittle and weaker which makes it susceptible to shattering more easily. The battery boxes were also revised in order to keep the batteries in place and more stable. The bottoms of the batteries now lie against the side of the chassis. These changes will help keep the driver safe and make the car more efficient. "These changes in Pulse will allow us to improve our vehicle by increasing its efficiency and making it safer for our driver. It would also help us accomplish our goal of traveling 30 miles in one hour," says Samantha Liu, a Mechanical team member.

Robotics team competes
in first tech challenge
*LAAE Robotics team competes in
FTC for the second time.*
By: Kimberly Hsu



*The senior Robotics team prepares
for First Tech Challenge.*

*Top row from left to right: Marcos Avila,
Kevin Morales, Jerry Wang, Kimberly Hsu
Bottom row: Nick Pung*

On December 15, the LAAE Robotics team participated in First Tech Challenge at Webb School, Claremont. The team had to build an 18" by 18" by 18" robot out of Tetrix© pieces and program the robot to pick up and place rings on a 3' by 3' PVC rack. The Robotics team chose to create an omni wheel drive robot with a four-bar system attached to a motor propelled lifting mechanism. Competitors had the option of programming an additional infrared sensor to place specific rings on the rack, however; the Robotics team did not choose to program the infrared sensor because the coding of time constraints.

Each round consists of two teams forming an alliance against another alliance of two teams. In the last 30 seconds of the round, robots lift their paired team's robot to score points. The entire round lasts two minutes. In one of the adrenaline-rushing rounds, Robotics had the chance to work with students from Glen A. Wilson High School. After competing in three rounds, the LAAE Robotics team earned 14th place out of 23 teams.

Having signed up for two FTC competitions this year, LAAE passed the competition on to freshmen from Introduction to Robotics class. "I'm excited to see where we place in this competition seeing how this is our first time competing," says Michael Attanasio, a freshman from the Intro to Robotics team. They will be competing for the first time on February 2nd to earn new experiences while the senior members will be

A Word from our Adopt-an-Engineer Fundraiser Sponsors

Thank you to the following people for your generous donation and words of encouragement.

Norma Manning:

“ Proud of your program.”

Dickie Simmons:

“ I am so proud of the outstanding quality of students produced by our high school (*Los Altos High School*)”

Mary Ann King:

“ I wish you much success- and enjoy the journey.”

Brad Manning:

“ I wish you the best with the “ Pulse” car in Florida good luck!”

Gino Kwok:

“ Thank you for making our spirits soar through the power of imagination.”

Vern Moyer:

“ I wish you the best of luck with your plans.”

Maureen Sinclair:

“ Best of luck from Educational Services,
LPVROP:”

We would also like to thank the following:

THANK YOU SPONSORS



Los Altos Academy of Engineering 2012- 2013



Staff Writers:

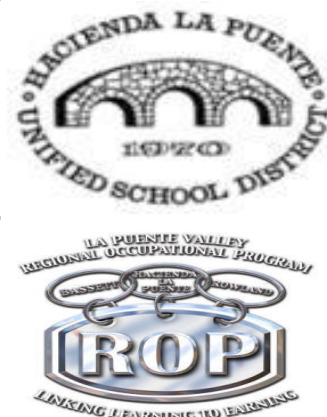
Brian Ku
Kimberly Hsu
Airi Fukushima

Editors:

Bill Rockwood

*Dear community supporters,
Thank you for your continuous support in the Los Altos Academy of Engineering. We deeply appreciate your participation in helping LAAE build a cleaner, more fuel efficient tomorrow.*

LAAE



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