

# UCLA AICHE Spring 2007 Western Regional Conference

## Western Regional Conference at UCSB

This year 11 incoming and outgoing UCLA officers attended the AICHE Western Regional Conference held at UCSB on April 21, 2007. Everyone enjoyed networking with other schools, including UCSB, UC Berkeley, and UC Davis. The night before the conference, students from each school gathered for a bowling social. The next day started with a student paper competition. The poster competition ensued shortly after followed by a delicious outdoor lunch. Next was the highlight of the conference: the Chem-E-Car Competition. The day ended with an amazing banquet at the UCSB faculty club where they announced the day's competition results.



Chem-E-Car Poster Competition: (left to right) Andre Maranhao, Alex Brinkmann, Jammie Peng, Eva Schmidt, Jeremy Guo, Matt Silverman, Marie Sutton, David Lin, Jennifer Holmdahl, and Jeff Audett

## Chem-E-Car Competition

The objective is to design and construct a car that is powered with a chemical energy source that will carry a specified load over a given distance and stop; neither the load nor the distance is known until the day of the competition. The spirit of the competition is to inspire innovative ways to provide an alternate source of fuel.

At the 2007 Western Regional Conference, UCLA won 3 awards: 2nd place in Chem-E-Car Competition, 2nd place in Chem-E-Car Poster Competition, and Best Team Spirit Award. UCLA is now eligible to compete in the 2007 National Competition in November 3-5, at Salt Lake City, Utah.

## Chem-E-Car Team

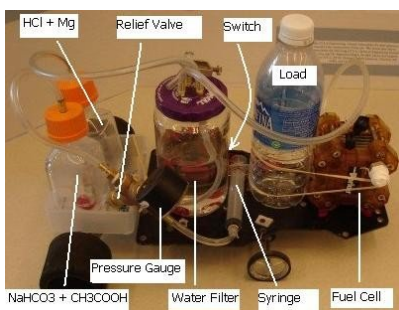


Chem-E-Car Team members: (left to right) Selma Lee, Bert Liu, Alex Brinkmann, Jammie Peng, Jennie Pang

UCLA's Chem-E-Car is powered by a fuel cell, which utilizes the energy from the reaction between hydrogen and oxygen to produce water. ( $2 \text{H}_2 + \text{O}_2 \rightarrow 2 \text{H}_2\text{O}$ ) The reaction of 1 M hydrochloric acid and magnesium ribbon is used to produce the hydrogen for the fuel cell. ( $\text{Mg} + 2 \text{HCl} \rightarrow \text{H}_2 + \text{MgCl}_2$ ) This takes place in a 125 mL reaction vessel. The hydrogen is bubbled through water in a 500 mL filter chamber to remove acidic vapors and to provide moist hydrogen for the fuel cell.

The stopping reaction consists of 1 M acetic acid added to baking soda (sodium bicarbonate) to produce carbon dioxide. ( $\text{NaHCO}_3 + \text{CH}_3\text{COOH} \rightarrow \text{NaCH}_3\text{COO} + \text{H}_2\text{O} + \text{CO}_2$ ) This takes place in another 125 mL reaction vessel. The carbon dioxide gas will raise the pressure in our apparatus and push a syringe outward. The syringe will eventually flip a switch, and cut off the circuit, thus stopping the car.

This year's team is led by Jammie Peng and Alex Brinkmann, who are passing the torch on to Selma Lee and Bert Liu. If you are interested in the progress of the car or offering advice to the team, please visit the team's LiveJournal or email the Co-Chairs.



Chem-E-Car Website: <http://uclachemecar.livejournal.com>

UCLA AICHE Website: <http://www.studentgroups.ucla.edu/aiche>

Newsletter written by Jammie Peng ([pengj@ucla.edu](mailto:pengj@ucla.edu)), edited by Selma Lee ([selmalee@ucla.edu](mailto:selmalee@ucla.edu))

