

# 2007 AIChE National Student Conference

## Salt Lake City, Utah

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Attendees: Cynthia Ma, Selma Lee, Bert Liu, Jennie Pang, Jammie Peng, Lianna Tang, and Patrick Zhang

**Saturday, Nov. 3**

### 8:00-10:00am: Chem-E-Car Safety Training



Chem-E-Car Co-Chairs, Bert Liu and Selma Lee, learned to properly complete the JSA (Job Safety Analysis) and participated in short exercises to analyze safety hazards of car designs.

### 11:00-11:30am: Student Chapter Workshops

#### How to Integrate/Incorporate the Chem-E-Car Competition into Chemical Engineering Class

Jammie Peng and Jennie Pang were surprised to learn that at Oklahoma State University, Chem-E-Car is a mandatory project in their sophomore and junior Chemical Engineering classes. Three juniors are paired with three sophomores on each team, who submit their car design to be reviewed by their sponsors. The students acquire key skills that complement their coursework: hands on application, project experience, and team work.



#### Successful Chapter Operation: Strong Underclassmen Involvement

Bert Liu and Patrick Zhang now understand that AIChE plays a large role in Chemical Engineering student life. All ChemE students should participate in AIChE regardless if they have freshmen or seniors. Upperclassman should help lowerclassmen to explore college life along with their major's concern.

## 1:00-4:00pm: Career Planning Workshop

### What Challenges and Opportunities are Available to Chemical Engineers in the Environmental Fields?

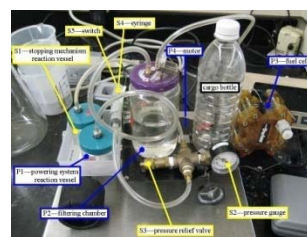
Selma Lee and Jennie Pang learned that Chemical Engineering is a very compatible field of study for environmental work. All panelists strongly advocated this idea. One thing to consider is research or working in a large company or a small company.

### Dining Etiquette for Young Professionals

Throughout this workshop, Patrick Zhang reviewed some tips for use in a formal dinner. For example, he learned how to inform waiters/waitresses that you are ready to order or done eating. This session was very useful and fun.

## 2:45-4:00pm: Regional Conference Host Session / Running a Regional Chem-E-Car Competition

Bert Liu, Selma Lee, Jennie Pang, and Jammie Peng were present at this workshop where presenters stressed the importance to have a separate Regional Conference Planning Committee composed of students who are not AIChE officers purely because of the time commitment. Bucknell University divided the main committee into several Sub-Committees for different aspects of the Regional Conference, such as Fundraising, Venues, Career Fair, and Paper Competition. It is also important not to forget miscellaneous items such as designs of awards and T-shirts.



## 4:00-7:00pm: Chem-E-Car Poster Competition, Car Safety Inspections, and Safety Briefing

The UCLA Chem-E-Car Team explained the design and safety of the Chem-E-Car to safety inspectors and poster judges. The safety judges made the following recommendations:

- Clamps for tube fitting
- Nickel alloy fittings for HCl
- Quick disconnectors for electric connections
- Rupture disk for pressure relief

The judging was followed by a review of competition rules and chemical and waste handling.

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**Sunday, Nov. 4**

### **8:30-10:15am: Chem-E-Car Poster Session**

The UCLA Chem-E-Car Team discussed with interested Chemical Engineers the design of the UCLA Chem-E-Car and voted on the Golden Tire award for the most creative car. The UCLA Bruin Car is powered by a fuel cell, which utilizes the reaction between oxygen from the air and hydrogen produced from magnesium and hydrochloric acid to produce electricity. The stopping mechanism uses acetic acid and TUMS to produce carbon dioxide to expand a syringe, which flips a switch and cut off electricity to the motor at the calibrated time.



### **8:30-10:15am: Graduate School Fair & "Meet the Sponsors" Career Fair**

Patrick Zhang explored the sponsors' career fair, and he is very interested in Dow. Patrick inquired them about their internship program, and will email the director his resume. Selma Lee and Bert Liu also approached many companies with the possibility of sponsoring the 2008 Western Regional Conference at UCLA.

### **10:15am-noon: Student Awards Brunch**

AIChE leaders announced many scholarship recipients and awards. The UCLA group was excited that Thomas Schwei from Berkeley won first place for the Student Paper Competition, representing the UC's.



### **1:30-3:30pm: Chem-E-Car Competition**

Excitement peaks at the highlight of the National Conference – the Chem-E-Car Competition. The competition conditions announced were 67 feet distance and 350 mL of water load. From David Lin's calibrations, the Car needs exactly one minute to run, requiring a stopping reaction mixture of 10 mL 2M acetic acid and 2 whole TUMS.

However, the Bruin Car's fuel cell seems to have been lonely for the two weeks it spent in Utah without its team and did not yield a consistent result, falling short of the goal. The first place went to Cooper Union, 4 inches away from the goal. Following closely behind was Carnegie Mellon, only a half inch farther.

### **Back to UCLA...**

After analyzing the results of the competition, the Chem-E-Car Team seeks to improve the car's performance by redesigning the chassis and other mechanical and electrical

components of the car. The hallway of Boelter 5<sup>th</sup> floor was tested and found to be uneven with some downward slopes, which would affect the calibrations. For the 2008 Western Regional Competition, the Chem-E-Car Team hopes to enter 2 cars into the competition.

### **Thank You's...**

Thanks to the UCLA Engineering Alumni Association, the UCLA Undergraduate Students Association, and William Goodin for their generous donations crucial to the construction of this car and the transportation of the team to the competition. **We** would also like to extend our appreciation to the following UCLA Chemical Engineering Faculty: Dr. Drake and Dr. Monbouquette for their advice and support. **Also**, thank you to UCLA AIChE Student Chapter Sponsors: Behr, BP, Chevron, Clorox, and ConocoPhillips. Without these generous donations, the UCLA Chem-E-Car would not have been able to compete in the 2007 National Chem-E-Car Competition.