OXE Newsletter

October 14, 2016

Tutoring Schedule

Mondays 10A.M. CHBE 302 Room 2140
Mondays 1P.M. CHBE 440 Room 2140
Tuesday @ 7P.M. CHBE 422 Room 2116
Wednesdays @ 10A.M. CHBE 301 Room 2140
Wednesdays @ 11A.M.CHBE 410 Room EGR1134F Every other week
Wednesdays @ 1P.M. CHBE 250 Room 2140

Upcoming Dates

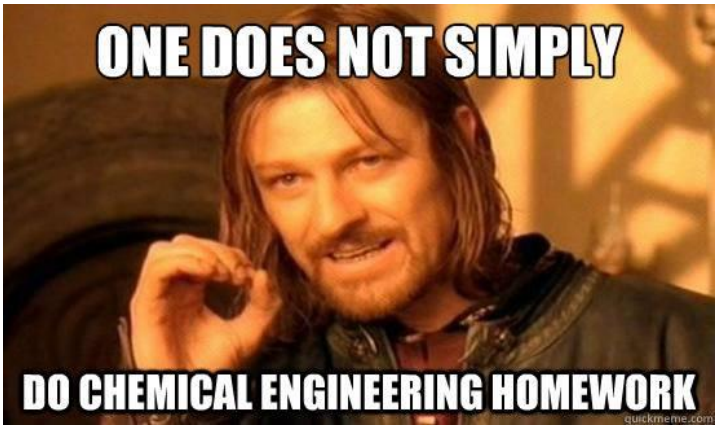
Initiation
Monday, December 5th

AIChE National Conference
November 11th – November 14th

ChemE Formal Tentative Date
Friday, December 2nd

Things Heard in the Classroom

Professor Raghavan
"The chemical engineering word for intuition is mass balance" – the answer to how you know things is intuition.
Dr. Panagiotis (Panos):
"Study hard and be cool"
Dr. Gibbons:
"Oh! That's a good question" - talking about his own questions
Professor Choi on Laplace:
"There is no present, only a past and future"
"u(t) is life. The world before time zero means nothing to me! The world has meaning after I was born"
"We have already left earth, and we are above the clouds. Bring the boundary conditions with you too."
Professor Ehrman:
"Junior year is like boxing, with frequent 'pow pow pow pow', except you're the punching bag. And then senior year comes, and it's like 'rest', 'BOOM', 'rest', 'BOOM', except the constant 'pow pow pow' is still there.



Our Strange Chemical and Nuclear Engineering Building

Annika Vaerst

Freshman: "Excuse me, do you know how to get to Prof. Sriram's office?"
Sophomore: *rolls eyes*
Freshman: "His office is 1208D, but I can't find any rooms that start with 12."
Sophomore: *sighs and grabs bag* "Come on, it's easier if I show you myself."

As ChemEs, we've all become accustomed to situations like the one featured above. Just like our classes, our beloved Chemical and Nuclear Engineering building loves to challenge us. But like any beast, it could just be misunderstood. I took a tour with Dr. Richard V. Calabrese to find out the answers to the questions we often wonder.

Q: Though beautiful, why is there a garden behind CHE?
A: After the 9/11 terrorist attacks, the garden was placed outside of the wall nearest the nuclear reactor. This served to prevent vehicles driven by terrorists from crashing into the wall and subsequently wreaking havoc with the reactor.

The garden on the backside of CHE.

Q: Why is the floor in room 2118 elevated?
A: Right below this room, there used to be a radiation facility. To keep the radiation secure, the room is contained by "very very thick concrete walls" and a "two foot thick concrete ceiling," causing the room above to step up.

These windows span two floors, showing how it originally used to be one large connected room.

Q: Why is the first floor laid out in such a confusing manner?
A: The overall layout of the building hasn't changed since it was built in the early 1960's. When it was first built, both parts of the first floor were connected with a lab that you could walk through. The lab was two stories tall and filled with huge machinery. However, this was eventually remodeled and split into two separate floors, with the Bio Scale-Up Facility (BSF) on the first floor and the Polymer Science Laboratory on the upper floor. With this remodel, the BSF was sealed off from the main part of the building. This prevented unwanted students from wandering through the BSF. Essentially, when you walk from the front of the building to the second floor and back downstairs to the offices, you are walking around the BSF.

Q: There is a rumor that no major construction can be done on the building because of the nuclear reactor. Is there any truth to this?
A: No, this is not true. If it were true, this probably would have prevented the construction of the newest wing of the chemistry building.

Thank you to Dr. Calabrese for explaining the quirks of our building.

Undergraduate Research of the Month: Ricky Morales

Trey Mason

Ricky Morales is a senior in the Chemical and Biomolecular Engineering department and is working toward completing the B.S./M.S. degree track. Ricky has been a research assistant in Dr. Dongxia Liu's catalysis lab for over a year. In the lab, Ricky is working on converting simple sugars, namely fructose, into more valuable organic acids.

This is traditionally done with bacteria in bioreactors, which Ricky says can get messy. This is why the new approach, using catalysts, is so attractive. The lab is looking at using catalyst types such as zeolites and metal organic frameworks in order to achieve the same biomass conversion more efficiently.

Ricky says that his research is going along fine, but that he wishes to gather more data over this semester and during the winter. He hopes to present his findings at the American Institute of Chemical Engineers (AIChE) Mid-Atlantic Student Conference at Rowan University in March 2017.

Ricky's research experience has had an influence on his decisions about his path beyond undergraduate studies. "If it weren't for [my work with Dr. Liu], I definitely wouldn't have considered the B.S./M.S. degree track. [She] pointed me in the right direction towards what I wanted to do," Ricky explains.

In addition to his research, Ricky is involved across campus. He serves as Vice President of Sigma Phi Delta Engineering Fraternity, as well as Senior Class Representative of the Maryland Chapter of AIChE.

For anybody interested in participating in undergraduate research, Ricky suggests to meet and talk to professors in the department. Many professors run research labs, and "even if you don't specifically enjoy the class, the applications of the topic in the lab may be more interesting to you," Ricky says.

When asked about his interaction with Dr. Liu, Ricky says: "[Dr. Liu] is a great mentor and she really helps you with getting on top of things. She understands the workload that senior ChemEs have and really helps me go at my own pace."

Ricky Morales
Senior