

Spring Term Issue 1996

The Official Newsletter of AICHE - Oregon State Chapter

President's Left Upper Corner

Oh my! The term is quickly coming to a close and with it another year shall end; well academic year that is. I hope everyone has a great summer planned for themselves and that they remember to buckle up when ever they hop in their cars and go for a ride. Ya whatever.

For me, I must say that I am excited yet anxious to be in the real world once and for all. I have faith in the curriculum and chemical engineering department to keep me prepared for whatever obstacles I might meet in the years to come. I will definitely take the advice of Dr. Kimura and do all that I can to stay out of jail and make sure that I never end up being the one to just sit by the window.

To my predecessor I give you Dr. Rochefort the ever humble advisor of AICHE. I thank him for his support and honesty. As most of us know, the man does not beat around the bush. Dr. Rochefort you have definitely made my time here a bit more interesting if not enjoyable.

To all of you juniors and seniors I encourage you to get involved in the executive offices of the AICHE Student chapter here at Oregon State. It may just open up the right doors for you. Heck, just today I got a free lunch with Dr. Rathja and company.

To all of the graduating seniors, good luck in your endeavors and be sure to leave an address with your classmates so that you begin to build a network and stay in touch with your old study partners. I happen to know some English guy who would love to have people drop in on him unexpectedly in Pittsburgh, PA.

To the freshman I will just tell you that it does not get any easier. I recommend investing in any futures that involve caffeine. I happen to have a roommate that will keep the Coca Cola company in business at least until he croaks. Also, buy a reusable container for those late night coffees and 44'ozers. I like trees.

Sophomores - the only thing I can say is - well I don't envy you Junior year). I still have nightmares from that year. Just remember that you only need 3 hours of sleep each night to survive - at least that's what the doctors say.

Juniors - well Senior year is yours. I must say that you really get to the heart of your studies. This is where all of those late nights of hard work really pay off, and the subject matter that you have been studying finally comes together. Boy do I feel old.

To fifth year seniors - ha - stay in school until they kick you out or you go under the poverty level. You may never have the same academic opportunities again. Except of course if you are crazy enough to be a grad student - but that is another story in itself.

Good luck to all - I am off to take a siesta before starting work in late July.

take care - ew - President OSU Student Chapter of AICHE

article by Eric Warninghoff

ChE Student Design Team Wins Prize in National Environmental Design Contest.

A team of 12 ChE students representing OSU, College of Engineering and Chemical Engineering Department in a national environmental design contest won the prize for the most innovative technology. This national competition is established by the Waste management Education and Research Consortium (WERC) and sponsored by the Department of Energy. WERC is established to expand the nations capability to address waste management issues through education technology development and technology transfer.

For the past six years WERC members organized design contest for universities that provides competition as well as outstanding learning experience. This unique and innovative contest is the only university environmental design contest of its kind in the world that provides participants with design and practical experience on a real environmental restoration issue. More than 20 nationally-recognized universities took part in this annual competition. This was the first time that a student design team from Oregon has been invited to participate.

Students from the Department of Chemical Engineering (from freshman to graduate students) Daniel Bonneville, Lisa Clement, Dan Euhus, Christopher Manspeaker, Matthew Law, Ronald Mullikin, James Philips, Brian Rauscher, Frantz Villers, Jason Weakley, Kong Foong Yu, and Betty Wangsawidjaja) started their own corporation "OSU Rapid Response Environmental Team", in response to multitasked challenges involved in the education, design, manufacturing of demonstration unit, public relations, fund raising and other activities that made possible their successful participation in this national competition.

This year's focus was on the underground storage tanks from the 1950s nuclear war effort. The tanks are leaking radioactive material, organics, and heavy metals into the soil. The competition rules required the presentation of the project design paper, poster, and operation of the demonstration unit to test the proposed solution. Demonstration unit was exhibited and operated at the competition site in Las Cruces, NM, on April 21-25, 1996.

Every member of the team was determined to find unique and new design solution to an old problem. Their design philosophy was simple: not one single existing technology was sufficient for the solution of the problem, otherwise, the problem of leaky radioactive tanks would have been solved long time ago. A combination of the existing technologies and new creative ideas was the right path to success. The team had chosen a new unit operation, adsorption in magnetically stabilized bed, that came straight from the Dr. Jovanovic's research lab. This unit will be soon part of the Senior Lab.

The team faculty advisor, Dr. Goran Jovanovic, turned this design contest into an unique academic and integrated engineering experience, by offering a three credit course (Selected Topics in Environmental Porches Design) during the winter term. OSU student design team seeks new members for the next year competition (late Fall to early Spring). Students may contact any former team member or Dr. Jovanovic. This effort was supported by the Department of Chemical Engineering, College of Engineering, Alumni, and several Oregon Companies.

Article by Goran Jovanovic

Dr. Skip's Corner

It's not over 'til the "Fat Lady" Sings..... and I hear her footsteps now!

Yikes-o-rama! We are already through another academic year and looking at a "change of command" for the AIChE Student Chapter. It's been another great year with "Mr. President" (who me?) Eric Waminghoff at the helm. But not to get too sentimental, it's time to kick those seniors out of the "OSU nest" into the "cold, cruel, real world" and let the new blood take over. The elections are over, you have made your selections, and the RESULTS ARE IN! For the first time on any stage, I present to you:

1996-'97 AIChE STUDENT

CHAPTER OFFICERS:

President: Nancy Eldin
Vice-President: Rada Vukmirovic
Treasurer: Bryan Fioreck
Secretary: Kanchana Bhaskar
Freshman Representative: to be selected in Fall Qtr.
Sophomore Representative: Daniel Euhus
Junior Representative: Matt Law and Eric Davis
Senior Representative: Neda Vukmirovic
Plant Trip Coordinators: Richard Fairchild and Beto Dantas
Newsletter (REACTOR) Editor: Kelly Stinson and Katt Fretwell
Tutor Program Coordinators: Nathan Dunn and Andy French
Social Chairpersons: Amy Chu and Brett Michel
Librarian: James Nelson

Au Revoir mes amis!

It has been my experience in three years as AICHE Student Chapter Advisor that the "personality" of the student chapter is strongly influenced by the qualities of its leader. In my first year we had "El Presidente Roberto" -- a benevolent dictator that ruled with an iron hand. In my second year, we had "Ms. President Lisa" -highly efficient and a master of delegation. In this past year, it has been my great pleasure to work closely with the ".who me?" President Eric Waminghoff -- a "laissez-faire" combination of his immediate predecessors.

Eric was voted into the Presidents position "in absentia" while on a MECOP assignment, and came in to try to organize a group of people that he barely knew and that had absolutely no idea who he was (and maybe still don't?). But the man voted "Mr. Congeniality" and "Least Likely to Succeed" (one out of two isn't bad!) by his "frat brothers" pulled it off. His easy going personality and gentle leadership skills carried the group through yet another successful year of pizza feeds, presentations, painting parties, plant trips, T-Shirts, Track Challenge, regional conferences, and..... a year end BBQ still to come. He led by EXAMPLE. When something needed to be done -- he was there (even if he was always a little late!). He would roam Gleeson Hall searching out hiding ChE's to attend presentations; he would order pizza and get soda; he painted, he drove, he presented, and he prodded others to participate. He made my job easier (and harder!), and for that I would like to say: THANKS ERIC FOR A GREAT YEAR. I wish you all the success you deserve.

It would be too long and boring to put in a little tidbit about all the people that contributed to AICHE this year, but I would like to say thank you to the "core" group of officers that were there week after week: Kelly (Mr. Minutes), Neda (efficiency and food), Colby (money man), Duncan and Marc (comedy team), Jennifer & Christine (food and fashion coordinators), Rada (Track Challenge), Nancy (graphics), Dan, Matt, Kanchana, Brian, and "**Mr. Reactor**" Aaron Cooke.

ChE Students win BIG at the AICHE Northwest Regional Paper Competition

There are not a lot of reasons to go to Pullman, WA -- but fame, fortune, and a good wupping of the "big, bad UW Huskies" are certainly three good ones! The AICHE Northwest Regional Meeting and Student Paper Competition was held at Washington State University April 26-28, 1996. In the midst of the "spring" rain and snow, OSU ChE students garnered three of the top six places (and "big bucks"!) in the student paper competition. For the first time in recent memory an OSU ChE student, Neda Vukmirovic (Jr), took 1st place in the paper competition. Besides taking home the \$500 first place prize money, Neda will represent the Northwest Region in the National Student Paper Competition, to be held in conjunction with the 1996 AICHE National meeting in Chicago this November.

Neda's presentation was entitled, "Waterborne epoxies for PCB Manufacturing". It was an IBM sponsored project in the Summer Undergraduates Research Program (SUR.P) at Virginia Polytechnic Institute, where Neda

spent the summer after her sophomore year. It was a very tight battle for the top spot (even as judged by yours truly) with an excellent presentation by Steve Logan from UW -- but Neda relinquished him to the runner-up spot amid the cheers of the standing room only crowd. Neda will spend the coming summer doing biomedical research at the University of Minnesota -- working on what she hopes will be next years award winning paper. Congratulations Neda..... and good luck in Chicago!

The *Beavers* domination of the *Huskies* continued throughout the day. In addition to the top spot, the team of Marc Wanless and Duncan Coffey (Sr) took 3rd place and the \$250 prize money for a paper entitled, "A computer graphics program for the rapid design of cooling towers". This was a project they completed (along with Yorick Wahaus) for ChE 412 (you see, something good can come from ChE courses!) and involved the innovative use of an EXCEL spreadsheet along with Visual Basic programming to construct a "point and click" program for quickly designing cooling towers. This presentation was *enthusiastically received* by both judges (one of whom had just spent the last week trying to design a cooling tower at work) and students in the audience (especially those seniors in plant design classes that had to go through the often "tedious" process themselves). Marc and Duncan surely could have sold copies of this program had it been available (which it is to OSU students in the Schulien Laboratory).

And to add "icing to the cake", Jan Trenkel (So) took 4th place and the \$200 prize money for her presentation on, "A comparison of polyacrylamide and straw for the prevention of erosion in furrow irrigated fields". This presentation was also well received by the judges, the reason for which should be obvious to anyone who has ever driven through eastern OR and WA! The highlight of the presentation (for me at least!) was when one of the judges asked Jan if the results of her study had been accepted and used by farmers. Jan calmly answered, "Well, my father has tried it on 500 acres of onion crop and he's sitting in the back of the room so you can ask him about it if you'd like." Zing! Now that's the way to answer a question!

It is noteworthy that of the 12 presentations given (4 from UW and 3 from OSU) , only 2 were by nonseniors -- Neda's and Jan's -- and they were both winners. CONGRATULATIONS to all winners -- let's do it again next year!

I would like to give special thanks to Clayton Kostelecky and Eric Warninghoff for moral support and expert navigational and driving skills.

WSU Trip Highlights

Whenever you take a "road trip" with a bunch of ChE's there are always some "memorable" moments - those people, places, or events that may become @ or distorted as the years pass by, but will never be forgotten. This trip was no exception. The absolute highlight of the trip up to WSU was a visit to Boardman and a greasy spoon whose name escapes me --- but is the "Home of the BOZO BURGER". They also have really great shakes (with "real ice cream" if you pay more -- which we didn't of course). For the rest of the trip Eric played "tag" with large trucks and we discussed Jan's intriguing childhood in Ontario, Marc's complete lack of understanding of farm animals, and the pros and cons of "free range" cattle. After a wonderful dinner at Subway, KFC, and McD's, and some rather erratic driving by Eric, we made one memorable "pit stop" along a narrow stretch of winding road with tractor trailer trucks zipping by. It was one of those, "..you had to be there moments.." but let's just say that it involved Clayton, Jan, and Marc --and bodily fluids. A "larger than life" likeness of the "Jolly Green Giant" was also spotted on a distant hillside.

Arriving at 9pm, we settled into the lovely Manor Inn in beautiful, downtown Pullman. Jan wisely went off to eat with her dad, Neda (also wisely) opted to stay in her room and rest, and a gang of five set out on foot (to stretch our legs!) to find food. The slight drizzle soon turned to heavy snow/slush in the 32°F night air, and after approximately an hour of rather aimless wandering past a number of unappealing (and closed) eating establishments -- we went up a hill to get over to the "other side of town" and a Denny's we had seen on the way in (yes, we were desperate). We were soon lost in a rather nice neighborhood -- that is until Clayton walked into someone's dark backyard, found the couple sipping wine in their hot tub, and preceded to ask directions to

Denny's. We were at Denny's by 11 PM and were served by midnight (would you believe it was packed?). We opted to take a more direct route back to the Manor Inn, and we soon found ourselves sidestepping our way across a bridge closed to foot-traffic over a steep ravine. Rather than die by falling in the ravine, Eric opted to jump the divider and sprint down the center of the road into oncoming traffic for about 1/4 mile -- we soon all followed. We were back by 1 am and some of us were up at 6 am for a "brisk" morning run with the bears and sheep (different pens!).

The details of the next day meeting have already been discussed above. The presentations were followed by a tour of the ChE Department (for some), an OSU-WSU baseball doubleheader for others, and a rather exciting Awards Banquet for all. The post-banquet celebration at a local "watering hole" with WSU ChE's was interesting but only one person made it up for the 6am run the next morning! The return trip was rather quiet, with Eric maintaining the speed limit ... until we hit Boardman and the "Home of the BOZO BURGER". Several of the group tried their namesake burgers, while those more sensible folks stuck to the "ever popular" milk shakes and fries. Clayton took over the wheel and brought us home at a more reasonable 15 mph over the limit. Another successful and eventful ChE road trip safely brought to an end.

AWARDS and RECOGNITION

The 1995 -'96 academic year has been a BIG year for ChE students in the awards department, and I would like to take this opportunity to recognize our students for their accomplishments.

NATIONAL AWARDS

Barry M. Goldwater Fellowship: NANCY ELDIN (Jr)

Nancy is the first OSU engineering student and one of the few ChE's in the country to win this national award (only two given per state), which is given for outstanding accomplishments and potential for future contributions to science and engineering education. Along with national recognition for Nancy and the OSU ChE program, the Goldwater Fellowship provides full tuition, fees, room and board for Nancy to finish her undergraduate degree.

Paper and Board Manufacturers Scholarship: DANIEL EUHUS (Fr)

This scholarship (\$1000) is presented to students with outstanding potential to make contributions to the pulp and paper industry after graduation. Dan is certainly very deserving of this award, as he has been an active member of the TAPPI Student Chapter since his arrival at OSU, and is currently doing an engineering internship at Pope and Talbot paper mill.

995 AIChE National Scholarship: Katie Du Pre (Jr)

Katie Du Pre was selected as one of only fifteen winners of the award in a national competition. She was cited both for her outstanding academic record and contributions to the ChE department in her three years at OSU.

1995 Donald M. Othmer Outstanding Sophomore Student Award Fransiska Dwikusuma, Nancy Eldin, and Neda Vukmirovic

Awarded to the sophomore ChE student with the highest academic ranking in each department in the country. We had the dubious distinction of having a "three-way tie", with each student having a perfect 4.0 GPA at the end of their sophomore year.

- o OSU was named a '94 -'95 AIChE Outstanding Student Chapter by AIChE national.

UNIVERSITY AWARDS

JoAnne Trow Woman of Distinction Neda Vukmirovic (Jr)

Presented to the OSU woman that best personifies the qualities of scholarship, leadership, and commitment to OSU and the community.

Waldo-Cummings Outstanding Student Award

Presented to several students in each academic year which demonstrate scholarship (GPA > 3.5) and service to OSU and the community.

Bhawna Aurora (Fr); Rick Osburn (So); Rada Vukmirovic (So); Nancy Eldin (Jr)

Drucilla Shepard Smith Scholastic Achievement Award

Presented to students that have maintained a perfect scholastic record (4.0 GPA). **Daniel Euhus (Fr); Daniel Dobry (So); Nancy Eldin (Jr); Neda Vukmirovic (Jr)**

DEPARTMENTAL AWARDS**1995 -'96 Oregon Section AIChE Scholarship**

Presented for contributions to the ChE department and the AIChE Student Chapter.

Neda Vukmirovic; Rada Vukmirovic

1995 -'96 Pacific Section TAPPI Scholarships

Presented to students with a demonstrated interest in a career in the pulp and paper industry, and for contributions to the TAPPI Student Chapter.

Daniel Euhus (Fr); Melanie Hinds (So); David Meads (So); Jeff Sorensen (Jr)

Dr. Skip's Tidbits:**ChE Laboratory Funding Drive Continues**

I would like to take this opportunity to mention a project which will have a big impact on all of the rerunning undergraduates. That is the launching of a campaign to raise funds for the improvement of the ChE Undergraduate Laboratory curriculum. This campaign is being spearheaded by Dr. Charles E. Wicks, Professor Emeritus and ChE Department Head for over 30 years, and has a goal of raising \$375,000 by December, 1996. The funds will be used for upgrading the existing Senior Unit Operations laboratory and purchasing/building new experiments for an expanded undergraduate laboratory program which will introduce laboratory experience in the freshman, sophomore, and junior year courses. The cornerstone of this undergraduate lab experience will be a LABORATORY LEARNING CENTER consisting of a series of modular experiments that can be easily integrated into the curriculum of existing courses -- much as computer laboratories are currently used. Alumni will soon be receiving a brochure in the mail explaining in more detail the laboratory expansion plans, and a mechanism by which they can participate in that expansion (yes, you guessed right, it does involve money!). Anyone interested in more information on this proposed laboratory expansion, please feel free to drop my office to discuss it or send me an email.

OSU ChE Dept. T-SHIRTS are STILL AVAILABLE!!!

The T-shirt features the famous (infamous?) "witches brewing" graphic used by Octave Levenspiel in the Chemical Reactor Onmibook, along with the company logos of several local companies which have made donations to the AIChE Student Chapter -- CH2M Hill; Pope and Talbot Paper Mill; Merix Corporation; SEH America; Chevron; Fujitsu. We wholeheartedly thank these sponsoring companies. T-Shirts come in L, XL -- gray or white -long (\$12) or short (\$10) sleeve (boy, what options!). Contact Dr. Skip Rochefort if you would like to buy a T-Shirt.

JOIN TAPPI NOW --

PRESIDENT'S POSITION OPEN!!

Do you want a low pay, low stress position? Then consider becoming a TAPPI Student Section officer (or at least a member). The organization, though small and not too vocal, is still in existence at OSU and we would like to recruit new members who might have an interest in the Pulp and Paper industry. There are numerous benefits to being a TAPPI member, not the least of which is a very supportive and strong TAPPI Pacific Section organization (the oldest in the nation). They provide both scholarship moneys and an extensive network for ChE students interested in employment opportunities in the Pacific Northwest. So if you have the interest -- we have the connections! See Dr. Rochefort for details.

OSU ChE Department HOME PAGE:

<http://www.che.orst.edu/>

SUMMER CONTACT

Please feel free to contact me for any questions you might have on the ChE Department. Dr. Skip Rochefort, OSU ChE Department, Gleeson Hall 103, Corvallis, OR 97331-2702 (503) 737-2408/ 737-4600 (FAX) email: rochefsk@enr.orst.edu

Article by Skip Rochefort

Who Is Jordana?

Recently, Eric Waminghoff interviewed Jordana Chambers. If you don't know who Jordana is -you should! My advice is to head directly to the ChE Office, enter the door, go to the left and introduce yourself to the woman behind the desk. The always cheerful "hello" will follow. To learn more about this ChE department cornerstone, read on.

○ **How would you best describe your position?**

My position as department manager is to manage the department's administrative affairs; this involves fiscal budgeting, building management, personnel, and so forth. Basically, my position is to maintain the smooth operations of the department while staying in the bounds of Federal, State, and Higher Ed Regulations.

○ **How long have you worked for the chemical engineering department? How many department heads have you worked with (survived) and who were they?**

I transferred to chemical engineering from agricultural chemistry in May 1986. At that time Charlie Wicks was the department head. After Charlie retired, Bob Mrazek served as department head until his death in May 1990. Jim Welty then served as temporary department head until Jim Frederick took over the position.

○ **Do you have any colorful stories/gossip that you would like to get out in the open about one of those department heads?**

Sorry, no colorful stories or gossip. ChE department heads are a very well behaved group of individuals.

○ **What do you like to do when your not at Gleeson Hall?**

Mountain biking; camping; making porcelain dolls (I am currently finishing up a Plains Indian and starting a Eurasian doll); target shooting (both handgun and rifle); and I am also a voracious reader.

- **Is your favorite color pink or are you seriously trying to induce a better learning environment by having the department glow rose? (ha ha) If your favorite color isn't pink, then what is it?**

My favorite color is not pink; however, psychological studies on colors have shown that rose colored hues produce a more stimulating learning environment. Besides, they help make Oregon's long gray winters less depressing. One of my favorite colors does happen to be peach; which I admit is close to pink.

- **What advice would you give to chemical engineering students when it comes to "what the department can do for you?" What I mean is how can a ChE get the most out of the department?**

I would suggest to get the most out of the department students do more than just attend classes. Get involved in the various activities that we have in the department; work with one of the professors on a project; and, if your schedule allows, attend the Monday afternoon seminars at 4:00 in Gln 200. We usually have guest speakers either from industry, other universities, or other departments at osu.

- **If you were a fruit or vegetable what would you be and why?**

I have no idea.

- **What's your favorite thing about working for Oregon State and the ChE department?**

What I enjoy most about OSU and ChE are the students. That may sound like a pat answer but Agricultural Chemistry is not a teaching department, it is more of a research department which is one of the reasons I transferred. I picked ChE and have never regretted it.

- **Who do you admire most and why?**

People I admire most are those that dedicate themselves to the preservation of animals. I am referring to people like Dian Fossey, Jane Goodall, and Tippi Hedren. The fact that they are all female is pure coincidence.

- **What is your most favorite quote, if you have one? OR What one work best describes you?**

My favorite quote is from the Talmud: "If I am not for myself, then who will be for me? If I am for myself alone, then what am I?"

Article by Eric Warninghoff

1996 "Time Masters" Design Team Competition

The 4th Annual Process Control design team competition was won by the team of Keith Jones, Dylan Mason, and Eric Warninghoff. The design teams made extensive use of the new Schuelein Computer Lab Facilities, which enabled students to do simulations more than five times faster than previously possible and allowed the students to more thoroughly investigate alternative designs. The objective of the competition was to design a control system for a process which had 8 possible measurements (only 4 could be chosen), 2 control valves and 4 input variables which could change and cause upsets to process operations. The designs were evaluated under 3 different operating scenarios, only 2 of which could be simulated by the students during the design process. Teams were required to find an appropriate control structure - which measurements to use and how to pair each measurement with of the control valves for feedback, cascade and feedforward control schemes. For any structure the teams also had to find numerical values for 10 controller parameters used to control this process. Since the process had significant dynamic interactions among the variables, the design problem was quite challenging.

The design of the second place team of Jennifer Curtis, Todd Miller and Colby Van Vooren achieved 94% of the winning performance, while the third place design by Mansour AlMutatairi, Christopher Manspeaker and Rami Obeidi achieved 92.6%. Each of the top three designs was the best for one of the operating scenarios, but the winners achieved the best total score for all three of the scenarios

Article by Keith Levien



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