



OCTAVE LEVENSPIEL Elected to National Academy of Engineering

By David Stauth for "OSU This WEEK" (reproduced by permission)

Octave Levenspiel - an internationally recognized educator, mentor to students, professor emeritus at Oregon State University and one of the pioneers of chemical reaction engineering - has been elected to membership in the National Academy of Engineering. This is one of the highest professional distinctions that can be awarded to an engineer. Levenspiel, who joins 15 other OSU alumni who are members of the academy, is the first OSU faculty member elected. Membership recognizes those who have made "important contributions to engineering theory and practice...and those who have demonstrated unusual accomplishment in the pioneering of new and developing fields of technology," academy officials said. Levenspiel was recognized for contributions in chemical reaction engineering and introducing these into the profession as a cornerstone of the basic curriculum now studied by engineering students all over the world.

Levenspiel received his doctorate from OSU in 1952 and served as a faculty member for 25 years until his retirement in 1991. He published more than 100 papers and proceedings, two of which have been listed in the "Citation Classic." He is an author of five textbooks, one of which has been translated into 10 languages, and has presented lectures and seminars at more than 100 academic institutions in over 20 different countries. He received the 1966 Lectureship Award by the American Society for Engineering Education, the 1979 American Institute of Chemical Engineers R.H. Wilhelm Award in chemical reaction engineering, and the 1997 Warren K. Lewis Award, the highest honor given by the society.

Levenspiel received an honorary doctorate, "Doctor Honoris Causa" from the National Polytechnic Institute of Lorraine, France, on the occasion of the 100th anniversary celebration of their Ecole Nationale Supérieure des Industries Chimiques, in May 1987. Levenspiel taught for more than 40 years and in writing textbooks was adept at making engineering principles interesting and understandable for students.

His first book, "Chemical Reaction Engineering," was published in 1962. There were five printings in its first edition and 38 in the second edition. A reviewer once said of another Levenspiel book that it was written from the heart and "students tend to sell used textbooks once they finish a subject and pass their final examination. I found that this . . . was not one of those books, seniors use it in their design courses and many graduates keep the book as a reference."

When Levenspiel retired, he found his office literally covered with more than 200 faxed messages from former students and colleagues from around the world. One of them said he has "a way of stirring up the universe - and making it interesting and exciting again."

Interview with new Faculty Member Dr. Chang

By Kevin Shannon

There is a rumor going around that you wanted to be a fashion designer instead of a ChE. Is this true, and if it is, what made you decide on Chemical Engineering?

(Continued on page 4)

President's Update

by Eric MacKender

Greetings fellow students. Hard to believe another term is coming to an end. I want to take this time to bring everyone up to speed on some upcoming activities next term.

The Regional Conference is going to be held April 28th to the 30th in Moscow, Idaho. It will be hosted by the University of Idaho AICHe Student Chapter. This conference provides an excellent opportunity to present research projects, win money, meet other chemical engineering students, and have fun. There is a limit of 3 presentations per school this year. If you are interested in giving a presentation, please let it be known ASAP to Skip or myself. In the past, they have also had a poster session/competition. I will check to see if the poster session is scheduled for this year. Generally, Friday night is the arrival night and a social event is hosted. Last year we had a bbq and the year before at UW there was pizza and a keg. Saturday is the poster session and presentations. That night there is a banquet where the winning presenters will be recognized. Sunday is usually used for returning home. In the past, we have always had one of the largest contingents of students at this conference. I hope we can continue this trend.

Elections will be executed Spring Term. Start thinking about what position(s) you are interested in. Officers tend to have a weekly meeting which everyone is welcome to attend. Outside of this meeting, the time commitment varies depending on the position. If you want more information contact the current individual holding that position. There is a list of current officers on the bulletin board downstairs. You can also check out our

current officers meetings which are held Monday's at 5:30 PM in the Walton Library.

The Annual Spring BBQ will be held the Friday of Dead Week. This has been a great event the last two years and will be even better this year. There will be the usual softball game, Seniors vs. the World, and lots of food and drink. We hope to conveniently schedule a tour of the OSU Brewery and have a large batch of beer ready for the festival.

Lastly, if there are any particular activities, events, or speakers you would like to see us arrange, please let one of the officers or myself know. We would love to have more input on what people are interested in learning about outside of class.

Thanks to all the officers, members, and Skip for a great term. Good luck with finals and have a great spring break!

ChE T-Shirts for Sale

Catherine Norris has come up with a t-shirt design for this year. The shirt has a picture of naked Calvin (from Calvin and Hobbes), with the caption "Oregon State University Chemical Engineering Department, Clothing Optional Safety Glasses required". The design is black and orange.

The prices are as follows:

Short sleeved t-shirt	\$10.00
Long sleeved t-shirt	\$14.00
Ringer t-shirt	\$14.00
9 oz crew sweatshirt	\$16.00



AIChE Sponsors IM Basketball Teams

Women's Team

by Marjorie Johnson and Catherine Norris

The women's basketball team made huge improvements over the four game season. The first game was long, since only four players showed up to play that game. Although we were only down three points at the half, the second half was long and the final score was not pretty. On the upside Diana Djokte scored 12 points in her first basketball game. By the next game we had recruited a full team for the season. We had a much more competitive team by the third and fourth games, only losing by 13 and nine points respectively. Although we did not actually win a game, we had lots of fun and a few bruises and that's all that counts. On a final note, we would like to thank our loyal, smack-talking fans.

Men's Team

by Luke Norris

You have all heard that the chemical engineering department formed basketball teams for intramural basketball. I am sure that many of you even have friends on the team. But have you heard the rumors of Michael Jordan buying the team to take it to national glory? My sources have informed me that there was a man at every game that some said looked very much like Michael Jordan. Apparently the team had no knowledge of this. Most of the team members would only say that they thought that the IM team was fun and they got to know many more people in the department. I just can't believe that Michael Jordan wouldn't want to buy a team as great as ours.

ChE's win National Engineers Week Competition

by Abbie Walker

The ChE team won the bowling and trivia competitions to take home the first place trophy in the Engineering Week competition. The team also placed second in pictionary and third in the impromptu design events. The events were held throughout the week, and each engineering department was invited to enter a team. The competition was stiff throughout

the week, with the main opposition coming from the BioE team. The trivia team at the end of the week managed to pull off the win.

Strong representation by the ChE department helped to win the week long competition. A few individuals went above and beyond though. A big pat on the back goes out to Eric MacKender, who did the design competition all by himself. Brian "Skippy" Julich had the highest score of all the bowlers, 181. Good job keeping our average high Skippy! Stephanie Solarz was a good sport and helped the BioE team out at pictionary, since they didn't have as many people. Last, but not least, the trivia team of Lorne Gust, Skippy, James Lumsden, Kevin Shannon and Abbie Walker did a terrific job! (I am in no way biased on this.)

Many societies put in time to help make the week of competitions happen. Tau Beta Pi coordinated all the groups and hopes to make the competitions an annual event. Other societies that helped by organizing competitions are: AIChE, SWE, IBE and ASME. Pi Tau Sigma (Mechanical Engineering honor society) made the trophy. Come see it in the AIChE display case!

Other Engineers Week Activities

Other events were happening for Engineers Week also. The outreach to Corvallis High School was "successful," said Marjorie Johnson, AIChE outreach coordinator. Representatives from Biological, Chemical, Mechanical, Civil and Electrical Engineering were present.

The Willamette Valley Professional Section of Society of Women Engineers also held a banquet at OSU. The focuses of the banquet were to celebrate engineering, network, and realize that we can make engineering a more appealing career to youngsters. Representative Barbara Ross spoke on the programs in Oregon that encourage minority children to pursue careers in science, math, and technology. These have been very successful in helping these kids graduate from high school and go on to college. This year's Engineers Week Corporate Sponsor, CH2M Hill, had many employees at the banquet and also sponsored many students to attend.

Dr. Chang Interview *Continued*

That's not true. The truth is my brother went to Fashion Institute in New York, however, he is a freelance illustrator now. I did think about being an artist when I was younger. I chose Chemical Engineering because it is a very interesting combination of science and engineering and easier to make a living, too.

Where did you graduate?

I got my Bachelor of Science degree from the National Taiwan University and my doctorate from the University of Florida.

What was your Ph.D. research about?

My Ph.D. research was about developing a new manufacturing technology for copper indium diselenide thin film solar cells.

What classes will you be teaching?

I will be teaching 540 and 312.

What will you do for your future research?

I like to do both fundamental and applied research. The general area will be in electronic materials and micro-technology. On the fundamental side, I like to study chemical kinetics such as the mechanism in electronic material deposition chemistry. I would also like to continue working on using synchrotron radiation to elucidate the structure and chemistry of electronic materials. On the applied side I like to build useful devices, such as solar cells, transistors and micro-reactors.

Where do you see the department going in the next few years?

I see the faculty increasing size so they can maintain the teaching quality and keep doing research.

What are your hobbies?

I like art and table tennis.

Where were you born?

Taipei, Taiwan.

Have you ever been snowboarding?

No. (In a very regretful tone.)

What is your feeling on PERT charts and tables?

They are useful for professional people to manage time, both personal and project.

Do you know the equation for fugacity of the top of your head?

Yes, but only the definition equation.

Do you have anything you would like to say?

In terms of research we need to collaborate in the department and with other departments. Research is becoming more complex and with this trend more teamwork is needed.

Dan's Year in Germany

by Dan Braman

Werden Sie gern in Deutschland studieren?

Well, that's what I did last year. I studied in Germany.

So often it seems that engineering students get caught up in the trials and tribulations of classes like Thermodynamics or Physical Chemistry. To me that seems a real shame.

The things that I experienced by throwing myself into a foreign culture, where initially I had no language skills, and no real idea where I was going to stay the night, really changed my life. Hopefully for the better! Along with the German language, which I find to be quite interesting and fun to study (you get to make all sorts of neat throat-clearing type noises), I was able to observe myself in surroundings where I was free to make myself whatever I wanted. What a valuable opportunity for a 20-something year old!

Granted, I did extend my college career by a year, and for some that is just not an option. Also, I had forgotten a lot of the things which carry over from one year to another (like how to integrate and differentiate). The things I learned, however, made it well worth it.

I learned a foreign culture and language. I learned what it is like to be a foreigner, often in places not too friendly to foreigners. I saw countryside throughout Europe, and met people from all over the world. These things may not seem to important to a future

engineer, at first glimpse. I contend, however that they are invaluable.

The future of business and science is going to be one of closer international contact, and more demanding interpersonal skills. To be able to communicate with, and in many cases not offend, someone of another culture is going to be an invaluable skill, especially

for engineers, not notoriously the most socially well adjusted bunch.

I am not sure if this has turned out to be a vain attempt to justify a year off traveling through Europe, or a plug to get out there and experience the world any chance you get. Either way, I would have to give my fullest support to anyone thinking of striking out down a different path.

DR. SKIP'S CORNER



WINTER TERM at OSU is usually a cold, wet, and bleak time of year, but this quarter a big "ray of sunshine" shone through. On February 17, 2000 the National Academy of Engineering (NAE) announced the OCTAVE LEVENSPIEL, Professor Emeritus of Chemical Engineering, Oregon State University had been one of 78 new members elected to the "class of 2000". Dr. Levenspiel is the FIRST OSU FACULTY MEMBER ever elected to the National Academy of Engineering. His NAE induction citation reads: *For contributions in chemical reaction engineering and introducing these into the profession as a cornerstone of the basic curriculum.*

With a total U.S. membership of 2,027 and 157 foreign affiliates, the NAE is among the highest professional distinctions accorded an engineer. Academy membership honors those who have made "important contributions to engineering theory and practice, including significant contributions to the

literature of engineering theory and practice," and those who have demonstrated "unusual accomplishment in the pioneering of new and developing fields of technology". The NAE is one of three major professional honor societies in the U.S., along with the National Academy of Sciences and the Institute of Medicine.

That's the "official" side of the story. The fact that Levenspiel's membership in the NAE comes about 15-20 years later than it should have, has more to do with the "politics" of membership than with the quality and impact of his work. It is somewhat like an old-fashioned "country club" membership. Only NAE members can "nominate" someone for NAE membership. When we approached Professor Ken Bischoff (Octave's first Ph.D. student) to ask if he would sponsor a nomination, he said he felt "embarrassed" that Octave wasn't yet a member when he was already in NAE (Ken's academic career was at MIT, Cornell, and Delaware) and when Professor Neal Amundson (one of the "giants" of chemical engineering and a winner of the NAE Medal of Honor, it's highest individual award), was asked to write a supporting letter, his comment was "...isn't he already in NAE? What an oversight!" In short, the award is well-deserved and certainly a long time in coming!

The details of Octave's career are highlighted in an accompanying article which was first written by David Stauth for the March 9th issue of *OSU This WEEK*. I would like to provide a "personal" side to the story. When I interviewed for a job at OSU about seven years ago, I gave a seminar on my research work to a group of faculty and students. When I had finished, the first question came from some "old guy in a Mickey Mouse hat" sitting in the first row. He asked what all this "stuff" I was talking about was "good for" and what would I "really do" if I came to OSU. That was my first face-to-face meeting with

Octave Levenspiel . . . and I will never forget it. I can say that many people have felt, do feel, and will feel the same way. One of the more "intriguing" facets of Octave's "character" is that he comes at you "like a lion", and usually (but not always!) leaves "like a lamb". He'll confront you with "ChE riddles and pop quizzes" whenever and wherever he sees you (just ask Eric MacKender if you don't believe me). And even though he "retired" in 1991, he's in the ChE department every day at 12:15pm (easier to get parking in the lot then), he maintains active correspondence around the world, and he'll pop into a meeting you are having with your Dept. Head and put a list of 10 experiments on the table and say, "THIS is what YOU should be doing for transport labs in the junior year." If you want to try to understand this guy with the "funny hats", I think you only need to hear this story. On the day he received the "official word" of election to the National Academy, he had also just heard that his "Dinosaur paper" had been accepted for publication (after several tries). He was much more excited about the paper being published than the NAE election.

So when you see Professor Levenspiel in the Gleeson hallways, be sure to CONGRATULATE him.....for finally getting that "Dinosaur paper" published!

Octave Levenspiel -- 1997 AIChE Warren K. Lewis Award for Contributions to Engineering Education

There are many reasons that people choose to get into chemical engineering education. I'm certain that each of our faculty have their own personal reasons for being at OSU, but I'm equally certain that all of us would feel we had been "successful engineering educators" if we had only a small percentage of the impact that Octave has had, not only at OSU, but around the globe. Below is a copy of a letter I wrote a few years ago nominating Octave for an AIChE Education Award. I would like to share my thoughts with you now.

The Warren K. Lewis Award recognizes distinguished and continuing contributions to Chemical Engineering Education.

SELECTION CRITERIA

The recipient will have made important contributions to chemical engineering education based on one or more of the following:

- 1) Success as a teacher, based on an established command of the subject matter and an ability to inspire students and colleagues to high achievement.
- 2) Contributions of lasting educational significance such as superior textbooks, lectures, and laboratory techniques or models.
- 3) Impact upon the education of chemical engineering students as a result of creative ability. This may be evidenced by scholarly contributions to the literature, inventions, contributions to developments in industry, through consulting, or through government service.
- 4) Leadership in administering a department or equivalent.

NOMINATION LETTER

If education is viewed as a lifelong learning process, then Professor Octave Levenspiel is the quintessential educator. The fact that his chosen field of expertise happens to be chemical engineering is just a benefit to those who have come in contact with him in person or, more likely, through one of his textbooks with elegantly simple renderings of chemical engineering principles. It is the rare individual that is as well known and respected in places such as China, India, Yugoslavia, Europe, the Middle East, etc. as they are in their home town of Corvallis, OR. Though data on such things is not readily available, I would venture to say that Octave Levenspiel is probably in the "top ten list" of most recognized names in chemical engineering in the world. As Professor Aris so aptly points out in his letter, the fact that Octave Levenspiel has not previously won the society's premier education award must simply be that he has never been nominated.

The best case that can be made for the appropriateness of Octave Levenspiel for the Lewis Award lies in a reading of the selection criteria. His "success as a teacher and educator" is unparalleled, having been involved with chemical engineering education for over 40 years at three "permanent" universities, numerous visiting professorships around the globe, and countless seminar presentations, lectures, industrial short courses, etc. He has inspired three generations of chemical engineering students, and to this day continues to receive innumerable letters from chemical engineering students and professionals around the world for post-doctoral positions in his "laboratory". Any student or colleague that comes into his path is likely to be subjected to a

Levenspiel "pop quiz" on any subject from flying reptiles to boiling water on Mt. Everest.

As to "...contributions of lasting educational value such as superior textbooks.." one only need look as far as ones own bookshelf to find a Levenspiel text. He is most renowned for his textbook Chemical Reaction Engineering (1st Ed. 1962 -- five printings; 2nd ed. 1972, twenty-seven printings; 3rd Ed 1998), which is probably still one of the most widely used texts in the world. However, in typical Levenspiel fashion he has also produced several elegantly "hand-written and illustrated" versions of the Chemical Reactor Omnibook (1979, 1984, 1989, 1993, 1996) and Chemical Reactor Minibook, and made those available to students at "low cost" (no royalties) through OSU Book Stores. That is truly a "labor of love". With Kunii he has written one of the more widely used texts in Fluidization Engineering (1st Ed. 1969; 2nd Ed. 1991), another of his long-time research areas of expertise. He has written an applied transport phenomena textbook, Engineering Flow and Heat Exchange (1985, 1997) which has been used for years at OSU, and which one reviewer claimed is "one of the few textbooks that students don't sell back right after the course is complete". For many years, he lamented that there should be a "fun textbook" on thermodynamics, and when none appeared he ventured into uncharted waters to produce Understanding Engineering Thermo (1996), which is the only textbook that I have ever had a student tell me they "enjoy reading before going to bed"!

There is certainly no one that will dispute the fact that Levenspiel has had an "impact upon the education of chemical engineering students as a result of creative ability". Again, with reference to the comments of his peers in chemical reaction engineering, no one has been as creative as Levenspiel in his approach to the subject. Anyone who has ever seen him give a presentation, sat in on a class lecture, read one of his articles, or watched him interact with students in the cafeteria, has witnessed the creative genius of this man. His "style" of interaction, education, and writing is unique. Like the great painters, no one will ever mistake a "Levenspiel work" for that of another -- and no one is capable of truly reproducing his creations.

With respect to "leadership of a department or group", it is well known among his colleagues that Levenspiel had a strong dislike of administrative tasks. He would rather teach an additional two or three courses per year than take on the Department Head duties. On the other hand, there was no stronger voice or influence in the OSU Chemical Engineering Department in the twenty plus years he was there. He put the "Levenspiel stamp" on almost all the major department decisions and activities -- from program structure and course development to Ph.D. qualifying exams. His legacy lives on at OSU -- especially since he comes in daily to test new "ChE riddles" on faculty and students! In many ways, the "group" that Levenspiel most influenced and led was the chemical reaction engineering community, and the continuous stream of graduate students, post-docs, and visiting scholars that have passed through his laboratory over the last 40 years.