MECHANICAL ENGINEERING NEWS

More Vitality!

The beginning of the new year brings new adventures to KU's Mechanical Engineering Department. Our annual newsletter increases from once a year to three or four times per year. We begin a section on the history of the department and its people - the students and the faculty. It's a history that many of you will help fill in, a history filled with the little moments of mirth, the big events, now often forgotten, and the challenges you and members of the faculty faced. This year we are initiating an awards program to acknowledge the many accomplishments of our graduates. We will keep you up to date on our new fund-raising program to continuing building the department and school to more renown levels. Once a year we will have the typical eight-page newsletter filled with changes, the current year's accomplishments, information about our current projects, and a more detailed glimpse of life on the Hill today.

LaRoux Gillespie (BSME 65, MSME 68) and a Manager of Engineering Projects at AlliedSignal will edit the briefer versions and Dr. Faddis will produce the annual update. We actively enlist your help and support to provide news, insight, commentary, photos, history, and some "Hello, I got and read my copy last week" acknowledgments that the mail does get through.

90 minutes and we only have room for a few vignettes here. If you would like to have a copy of his complete comments ask Sharon Ledvina, our ME Department secretary, to send you a copy. This and other faculty histories are kept in the Spahr Engineering Library.

Professor X's tenure at KU covers the years 1955 - 1986, so a very large percentage of our graduates had some contact with him. He was a recipient of the Gould Award - the School of Engineering Outstanding Teacher Award - in 1967, the first recipient of this prestigious honor.

Professor X taught design-oriented classes like Strength of Materials and the Senior Design Project. One student, when asked whether he enjoyed all of our mystery teacher's classes said, "No. I had a thermo class and I did not enjoy that at all."

Professor X: "I enjoyed teaching thermo, I think as a consequence of being involved in the heating and air-conditioning machinery business for a good many years. I am surprised at the response of this student because I enjoyed teaching thermo. It was abstract and there is no way to teach it other than through certain mathematical abstractions. I did teach heating and air conditioning from time to time. I think that went over reasonably well. My primary interest was in machine design and mathematics."

David Kruse, a 1966 M.E. graduate, notes that our mystery teacher is the one person he remembers from KU. That is not unusual. What struck him most? He said it was the encouragement Professor X gave him to stay in engineering. "Did that mean you were thinking about getting out?" we asked Kruse. "No," he replied, "It is that every time I talked with Professor X, or every time we were around him, Prof. X had real life examples of what he was doing in Mechanical Engineering and that's what kept me interested. That's the only place I really saw what a Mechanical Engineer really does."
Kruse continued: "Professor X brought all these examples. Let me give you one. We were in our senior design class, and we had to analyze a problem, and we had been through gearing and four bar linkages. Professor X gave us an assignment, 'I want you to analyze this planetary gear system'. We said, 'Okay', but there was a strange wrinkle in there; it was a flexible spline drive. This little thing changed shape while it rotated. That was our problem. That set us back a week or two before we could grasp how to attack this problem. It was those kinds of things of real life situations that I remember him for, that kept me in engineering - working on a real life problem. He brought them to life."

For more than 30 years, Professor X learned 30 to 100 names twice a year. Rounded off to the highest estimate, that is 3500 names of students he taught, tested, graded, and influenced. He knew Bob Eaton (Chairman and CEO, Chrysler Corporation) quite well. In fact he and Professor X's older son were close friends going through school. Professor X: "Bob had his feet on the ground and knew what he wanted to do. He has done very well."

Professor X was interested in machinery. He had a two-window VW he was quite proud of, and for which he was harassed quite heavily. That was one of the first Volkswagens that came into the United States. He had the first rotary engine Mazda in this part of the world, and drove it back from the west coast.

Professor X attended the University of Alabama and graduated from the University of Illinois. He taught at Hartford Connecticut and Kansas City Junior College as well at KU. He was Manager of Mechanical Engineering at Marley Company and an engineer at Butler Manufacturing.

Professor X: "The junior college in Kansas City had an extremely outstanding reputation at one time. I went to the University of Illinois the last years for two reasons. My brother was in medical school at KU and my sister got a master's degree from KU and I had always been the kid brother, and secondly one of the instructors at junior college was a very close friend of mine. I got to know him quite well. My last half of my sophomore year he took me and two others up to Illinois to introduce us around. It was his alma mater and as a consequence of his interest in us, we went to Illinois, the four of us.

"Leon Mart, president and founder of the Marley Co, hired me after WWII when I met him on a visit to Kansas City. My wife and I decided we were going to move back to where our folks lived, rather than the east coast. Leon Mart knew I had experience in the design of aircraft propellers and propeller blades. Cooling tower fans are a great deal like aircraft propellers. The design premises are similar. The aerodynamics are just a case of geometry and lift and drag characteristics of airfoils. If you look out the window of most any tall building any place in the world and look down on a cooling tower you will see fans I designed. I can't get away from it.

"I have traveled quite a bit. My first investigative task I undertook as a technical expert in conjunction with legal matters involved the failure of a twin tandem horizontal compressor engine in southwest Kansas that Dean DeWitt Carr asked me to go look at for his client, the Northwest Gas Company. As a result of that kind of activity I have been involved with around 1400 clients, all over the world and I have traveled here and there and elsewhere looking at machinery which mal-performs or is involved in a catastrophe one way or another. Half of them I have been involved with since I retired from the KU faculty. Frankly I am tired of traveling. I am still deeply involved with a lot of that. I can't seem to get away from it. Someone who I have been involved with over the years calls up and asks for help, how do you say no? It's hard to do. I was doing too much traveling in industry when I was there. That was part of the motivation to come into teaching for which I am grateful."

Professor X's list of professional and social associations is lengthy. In fact, a one-inch thick notebook is required to contain the certificates for each organization. They include ASME, SAE, Tau Beta Pi and Pi Tau Sigma and national leadership in Sigma Tau. He was personally responsible for the merger of Sigma Tau with Tau Beta Pi. He was a
Registered Professional Engineer in Missouri 50 years ago.

Who is this teacher?

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**KU's Engineering History in Print**

In 1990 the university published a 438-page history of the School of Engineering. A few of these attractive volumes are still available from the Dean's Office located at 4010 Learned Hall for $25 each.

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**ME Advisory Board Establishes The Mechanical Engineering Partnership Fund**

In October 1995 the members of our Mechanical Engineering Advisory Board pledged $10,000 to initiate an endowed fund with the KU Endowment Association for the M.E. department. The Mechanical Engineering Partnership Fund will be fully established in April 1997 through contributions of the entire board. This is a major beginning on a journey to build a substantial number of endowed funds for the department. The ten industrial board members have committed to initiate the fund themselves, but any other friends of the department who wish to contribute by April will be included with them as charter fund members. Come join us in this legacy of perpetual support for the Mechanical Engineers of the future.

The interest from the fund will be used to provide hardware, software, scholarships, fellowships, student projects and other activities not funded by the state. Eventually this fund will contribute major amounts to the department and will be a model of how others can establish legacies by endowing named funds that support M.E. education long after the giver is gone. Lorie Walker at the KU Endowment Association 913/832-7351 or Terry Faddis at 913/864-3181 can provide more information about the program and how you can support this or similar efforts.

What is the M.E. Advisory Board? For two decades or longer the department has relied on a formal advisory board of past graduates and key industry leaders from around the country to evaluate department efforts and accomplishments and to help define programs, courses, and directions tailored to industry needs. It is an effort to self-check our directions and priorities. The board meets twice a year at the school and staff provides presentations, tours and answers many questions. Is it a rubber stamp group? No, and the last meeting was clearly one in which differences were noted, but it is a team effort to assure excellence in Mechanical Engineering. Their personal efforts to endow the Partnership Fund mean they not only provide insight and direction, but also help the department financially and provide additional ideas for other financial help. Their efforts have provided permanent jobs directly for some students, resulted in equipment for our labs, brought in scholarship monies, resulted in summer jobs and sabbaticals, and provided us with many contacts for research and support not otherwise available to us. Most of all they help keep us current in technology and in tune with industry needs for our graduates.

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**M.E.s Make a Difference - Tell Us Your Favorite Story**

Twenty-five hundred M.E. graduates have made a substantial contribution to U.S. and International companies. We will profile some of these in issues of this newsletter. As a graduate you can help by providing insight on these contributions for others and for yourself. Who changed their community, industry, or made major research impact? We only know a fraction of the contributions made by anyone. Drop Terry Faddis a line with your
Robert Eaton was a member of the School of Engineering Advisory Board for 15 years. Eaton and his wife, Connie, have two college-age sons. They live in Bloomfield Hills, Michigan. He is an M.E. whose influence clearly impacts thousands and tens of thousands of our citizens. We are proud to acknowledge a few of his accomplishments and his KU Mechanical Engineering beginnings.

### Comments About Our Students

At times we take our students for granted. Each year a new group is entering our classes, and 50-60 graduates leave us. One of the most impressive evidences of excellence is the outstanding grade point average and ACT level of entering students. The School of Engineering over the past several years has implemented programs to assure highly qualified students enter the school. Students from outside the U.S. must first show accomplishments in the college before they may enter engineering. While any Kansas student may enter KU, the school and department restrict enrollees to ACT scores in math of 22 or above. The average math ACT score in Mechanical Engineering for entering students in 1995-96 was 26. This puts KU's students' ACT scores the highest of any M.E. school in Kansas.

How does the school attract such excellence? For the past several years it has benefited from named scholarships established by past graduates and friends. The KU School of Engineering actively works with many secondary schools in the state to assure that KU’s excellence is evident. It depends upon graduates such as yourself to spread the word about the excellence in KU's engineering programs and faculty. Current students also play a role. As they return to their communities, they note that Mechanical Engineering at KU is one of the few programs in the state taught entirely by professors. While grad students help run labs, the teaching is all done by professional staff. At KU, M.E. teachers teach and research. That is appealing to many entering students.
Good students, a good and dedicated staff, and a solid program result in capable graduates.

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The Mystery Teacher of 1955-1986

Many of Professor George Forman's accomplishments were not known by his students, but his dedication to design and his students was. If you would like to know more, you may be interested in reviewing comments from Calder M. Pickett's 1991 interview with George [preserved in the Spaar Engineering Library], as well as more from this interview.

Can you add anything to George's memories? If so, drop Sharon Ledvina a line, or call her at 913/864-3181 or fax a quick note to her or Dr. Terry Faddis at 913/864-5254.

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These Students Probably Have it Easier Than We Did

As best we can judge, today's ME student has an tough a task meeting academic expectations as we did. Despite the rigors of studying, some students stand out for exceptional excellence. We met one of these Best of the Best this year.

Kerri Graunke graduated in May '96. Her name appeared in three of the award ceremonies the editor attended in the Spring. In the classroom and most situations Kerri is quiet, unassuming, and willing to work on a special project by herself or as a team member. She drives and is driven - focused on whatever task she attempts - by deadlines and tests.

Kerri wanted to be an M.E. since high school. Her cousin was an M.E. Science and math were her favorite subjects. She enjoys M.E., but had to make a choice between KU and K-State. She loves KU. She is a KU basketball fan and basketball season is her season.

Kerri put herself through college with the help of scholarships, financial aid and summer jobs. Last summer she worked at Micron's Boise, Idaho, semiconductor facility on an internship. Kerri made excellent grades, but her several awards this spring were for efforts beyond the classroom - it was for her leadership. She was ASME Student Chapter President. She was the organizer and key worker in the '96 Engineering Expo Mechanical Engineering projects. She got the 3rd and 4th grade students excited about engineering with her contests for them. She was one of a quartet of students who worked on the KU M.E. semi-recumbent bike which they raced at Reno at the ASME Region 9 Student Chapter competition. They designed, built, conditioned for and operated it in several heats at the National event this spring. Feet above the waist, an aerodynamic fairing which encloses the rider, the bike was built for speed. It was their first year in the contest. They did not win the overall, but made excellent scores in some individual events. What did Kerri win? She learned the dynamics of people and working as a team. She enjoyed working with people and accepting them as they are, with all their differences. It was a year-long project, a year of long hours, working on unfamiliar topics. Kerri is a detail person, and had a different perspective on issues. Others saw the big picture but could not work the details.

Like many current M.E.s Kerri studied with a handful of other M.E.s. She shared her knowledge and her questions with her classmates. In the M.E. computer lab someone was always there, day or night, to answer questions. Prior to test time, 5 or 6 students would be studying at the laboratory.

It was tough, hard work, but Kerri finished the year and the degree, and became the Outstanding M.E. student of the 1995-96 Year. She took fifteen or more hours a semester. Kerrie had fun, was crazy at 4:00 a.m. after a long project, and rarely saw her roommate because of studying and projects.

She found the M.E. faculty available for walk-ins and impromptu meetings. The faculty were all helpful and excited about the student projects and about helping the students. The faculty are still good
at what they do. Students still get a good education, and they earn it. Kerri noted that nine of the twelve teacher of the year. That signifies a lot of respect for all the faculty.

Kerri is the student - the graduate - that each of us in industry wants to hire: bright, dedicated, hard working, straight-forward, a team player, focused, cheerful and full of promise. Too late, however, Intel gobbled her up and she is on the West coast.

M.E. professors received votes for outstanding M.E.

Yes, today's students do struggle the same way we did, fight the same battles, face the same uncertainties, hope, work and begin just as we did. We should be proud of each of our M.E. graduates. They earn their places just like we did.

Alumni Update

We're interested! Please let us know where you are and what you are doing. Simply fill out the form below and mail it to: Department of Mechanical Engineering, The University of Kansas, 3013 Learned Hall, Lawrence, Kansas, 66045, or drop us a line at: phone # 913/864-3181, Fax # 913/864-5254, e-mail: Knight@mecheng.mew.ukans.edu. We look forward to hearing from you.

Name ________________________  Class ________________________
Address ________________________
Company ________________________
Title/ Position ________________________
News about yourself, your family, your job: ________________________

M.E. Vibrations