

December 1997

Greetings from Dr. Bode ...

The 1997-98 academic year is well underway and we are optimistic that it will be an outstanding year. Student enrollment remains stable with 160 agricultural engineering, 77 TSM and 42 graduate students.

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Dr. Qin Zhang joined our department last August as an Assistant Professor in Power and Machinery. Dr. Zhang will be initiating a new program in "Mechatronics." Dr. Bruce Litchfield has accepted a two-year appointment in the College of Engineering as Director of an AE3 project on teaching. Dr. Kent Rausch has returned to the department as a Visiting Assistant Professor to teach Dr. Litchfield's classes and to collaborate with Dr. Eckhoff on his corn-milling program.

Three of our faculty have been promoted to full Professor: Phil Buriak, John Reid and Gary Riskowski. Dr. Peter Bloome has left the department to become Associate Director for Extension at Oregon State University. Dr. Kazimierz Banasisk has also joined the department for one year as a Visiting Scholar. Dr. Banasisk is from Warsaw Poland and is collaborating with the soil and water faculty.

Both the ASAE Student Branch and the Illini Agricultural Mechanization Club placed first in the National EMI (Equipment Manufacturing Institute) competition this year at the ASAE International meeting held in



Minneapolis, Minnesota August 10-14, 1997. This rating is based on the quality of activities conducted by the student clubs as judged by the national society of ASAE.

We need your help in identifying quality students interested in both the Agricultural Engineering and TSM programs. Many more jobs are available than graduates.

Please let us know if you have changed your mailing address, career path or just let us know what is happening in your life. A quick e-mail is sufficient. We just like hearing from you.

The holidays are a time for pausing to appreciate the goodwill of others. I would like to extend my warmest wishes to you and your families throughout this holiday season and in the new year to come!

Loren Bode
Head of Department

Awards ...

At the 33rd Annual Engineering Awards Convocation which was held on April 11, 1997 Ms. Julie Beveridge (May 1997 graduate) received the **1997 Stanley H. Pierce Student Award** from the Student Engineering Council Awards Committee.

This award is given in memory of Stanley H. Pierce who served as an associate dean of the College of Engineering. The award is given annually to a student who is selected as having done the most to develop empathetic student-faculty cooperation.

Graduate students Sreekala Gopalapillai, Qing Qu and Yanling Zhao were recognized at the Gamma Sigma Delta Annual Initiation/Recognition dinner held on April 10, 1997.

The top 100 Seniors at UIUC were honored on April 27, 1997 at a banquet sponsored by the College of Engineering Alumni Association. Amy Russell was among the seniors honored at this event. The students were selected for their contributions through extracurricular and Scholastic achievement.



Dr. John F. Reid, Professor in the Power and Machinery Division, received the 1997 Engineering Council Award for Excellence in Advising.



Julie Beveridge and Loren Bode

At the fall picnic on October 5, 1997, the following awards were given to our students:

- Adam Cramsey received the AGE outstanding freshman award for achievement during his freshman year.
- Michael Curl received the AGE Outstanding Transfer Student award.
- Vince Reincke received the TSM outstanding freshman award for achievement during his freshman year.
- Lindsey J. Schilling and Annette Zehner were recognized as outstanding Women in Engineering Scholars.



“The Cutting Edge” ...

“*The Cutting Edge*” is a new series of engineering and technology fact sheets written by members of our department about the latest cutting edge technology. Five fact sheets have been produced to date. They are:

Geotextiles and Geogrids on the Farm by Ted Funk and Gary Riskowski.

The 1997 Illinois Tillage Report by Bob Frazee, Mike Hirschi and Doug Peterson.

Compaction: Causes and Effects by John Siemens and Doug Peterson.

Compaction Cures by John Siemens and Doug Peterson.

Boosting Visibility of Ag Equipment by Chip Petrea, Bob Aherin, Irene Miles.

To order copies of the “*Cutting Edge*” publication, call 217.333.3570.



Happy Holidays and
Best Wishes for
1998!

In Memoriam ...

H. Paul Bateman was born September 21, 1910 near Mansfield, Illinois and graduated from Urbana High School in 1928. From the University of Illinois he received a bachelor of science degree in agriculture in 1932 and a bachelor of science degree in agricultural engineering in 1934. Both degrees were awarded with high honors. He was one of the first two graduates in agricultural engineering at the University of Illinois. He continued with graduate studies at the U of I and earned a master's degree in mechanical engineering in 1948. He married Lorennie Berry in 1968.

From 1934 to 1936, Paul was an engineer with the Federal Civilian Conservation Corps camps in western Illinois and became a faculty member of the Agricultural Engineering Department of the University of Illinois in 1936. His early professional interests were on the advantage of using tractors in place of horses on farms, then on proper tractor service and maintenance procedures, and field capacity and cost of field operations.

His long term professional career and interest began when he started and took charge of the Agricultural Engineering Research Farm at the University of Illinois in 1950. Each year he conducted field experiments on several tillage planting methods for production of corn, soybeans and other crops, the effects of soil compaction on crop growth and yield, nitrogen application rates, planter performance, and combines for crop harvesting. He was involved in the early work on using the combine to harvest soybeans and the feasibility of using a combine to harvest corn. Professor Bateman's greatest professional contribution was his

knowledge and publications on the development and evolution of the various tillage/planting systems for corn and soybeans. When herbicides to control weeds became available in



**H. Paul Bateman and Jeannie Bloome (BS'92)
Bateman Congeniality Award Recipient**

the early 1950's, he was one of the first researchers in the United States to conduct experiments on reducing the number of tillage operations used for planting corn and soybeans. At first the experiments included "*reduced tillage systems*" and then "*minimum tillage.*"

For minimum tillage in the late 1950's, he proved that only one field operation was needed. The operation included moldboard planting, applying fertilizer, planting corn, and spraying herbicides. The system was called "*plow-plant*" and was promoted throughout the Midwest as a means of reducing soil erosion and saving labor and fuel, and reducing crop production costs. The practice was widely promoted by the University of Illinois Cooperative Extension Service.

In the 1960's, Professor Bateman's tillage/planting experiments included chisel plow, disk, rotary tiller, ridge till, and no-tillage systems. He was one of the first researchers in the United States to conduct experiments on ridge-till and no tillage systems for producing corn. Farmer adoption of no-tillage was slow at first. But as new and improved herbicides

became available, the no-tillage system has been adopted by many farmers in the Midwest, due in part to Professor Bateman's early work on no-till planting equipment. No-till is now widely accepted as the most cost effective crop production system for reducing soil erosion in sloping fields.

Professor Bateman's interests in farm machinery continued after his retirement from the University. As a consultant he collected farm machinery repair cost records from farmers. These records were used in textbooks and in the Standards of the American Society of Agricultural Engineers. He also worked as a consultant corn planter for several major farm machinery manufacturers. He spent many

tedious hours in the fields planted to corn measuring seed planting depth and spacing. For several years a report was prepared for each manufacturer with a copy sent to each farmer.

After Professor Bateman's retirement in 1968, he and his wife Lorennie continued a loving, caring relationship that involved travel in the United States and overseas, participation in 17 Elderhostels, a joint interest in agriculture, in the sponsorship of a Jonathan Baldwin Turner Scholarship at the University of Illinois each year since 1983, and sponsorship of the Bateman Congeniality Award to a student in Agricultural Engineering and a student in Technical Systems Management at the University of Illinois. Professor Bateman's services to the Agricultural Engineering Department, to both the College of Agricultural, Consumer and Environmental Sciences and the College of Engineering, and to numerous other organizations were many and of integrity. His colleagues and many personal friends will miss his patient and helpful counsel in the years to come.

New Faculty ...

Dr. Qin Zhang has joined the department as Assistant Professor in the Power and Machinery Division. He was previously a Research Associate in the department from 1992 to 1994 working on intelligent controls for biological systems.

Zhang is originally from Hangzhou, China where he completed his undergraduate work at the Zhejiang Agricultural University in 1982. He received his masters degree from the University of Idaho and his Ph.D. from the University of Illinois, finishing in 1991. Dr. Zhang worked as a Project Engineer at Automated Analysis Corporation and a Senior Research Engineer at Caterpillar Incorporated before joining the department in August.

His current research interests are vehicle guidance and controls, off-highway machinery systems, robotics, fluid guidance power systems, fuzzy and neural network controls, mechatronics, smart sensors, and prognostics.

Dr. Zhang will be teaching AGE 311 in the spring and a graduate level modeling and simulation course in the fall.



Also joining the faculty this fall as Visiting Assistant Professor in the Food and Bioprocess Engineering Division is **Dr. Kent D. Rausch**.



Dr. Rausch comes from Kansas State University where he worked in Extension with food processors for 2½ years. He was briefly a Postdoctoral Research Assistant in the department from June to August 1993 assisting in developing a procedure

used for small samples of hybrid corn to determine wet milling characteristics. From 1989 to 1993 he was a Graduate Research Assistant in which he was actively involved in wet milling research projects. Rausch received his Ph.D. in Food and Bioprocess Engineering from the University of Illinois in 1993. He received his BS and MS degrees in Agricultural Engineering from the University of Missouri in 1987 and 1989.

Dr. Rausch's current research interests include impact of corn quality on the wet milling process; engineering design of the wet milling process to create or improve co-product value and quality; recovery of biosolids from food processes; and corn quality measurement and characterization.

Rausch will be teaching AGE 383 in the fall and AGE 385 in the spring.

Dr. Kazimierz Banasik is a visiting faculty member in the Soil and Water Division until June 1998. Banasik arrived in the department in August to work on modeling sediment and water quality for small watersheds. The research is being conducted within the Little Vermilion River Research Group under the direction of Dr. J. Kent Mitchell.

Banasik is an Associate Professor/Lecturer and Research Engineer in the Department of Hydraulic Structures, Faculty of Land Reclamation and Environmental Engineering, Warsaw Agricultural University and Professor, College of Environmental Protection, Radom, Poland. His areas of research include reservoir sedimentation, sediment yield, water quality and rainfall run-off modeling, managing field investigations in a small agricultural watershed: rainfall run-off, sediment yield, and water quality.

Dr. Banasik received his Ph.D. of Science in Technology in 1983 from the Warsaw Agricultural University. His field of study was hydraulics/hydrology and his dissertation was on land use effect on watershed sediment yield.





On August 21, 1997 **Randy Fonner** began work for the Cooperative Extension Service within the Bioenvironmental Engineering Division as Extension Specialist, Certified Livestock Manager Program Facilitator.

The position is in response to the Livestock Management Facilities Act passed by the Illinois General Assembly on May 21, 1996. With the passage of this act, Illinois livestock producers were suddenly faced with new state environmental regulations. Among them was a requirement that producers obtain an operating certificate for all farms having more than 300 animal units. Randy is responsible for coordinating the training sessions required for certification by the Illinois Department of Agriculture. In the future, the program is expected to expand to include manure nutrient management planning workshops and contractor workshops.

From March 1993 until August of this year, Randy was with the department as a Coordinator of Research Programs. Randy received his Bachelor and Master degrees from the University of Illinois at Urbana-Champaign and is a native of Champaign, Illinois.

Alumni News and Notes ...

Gerald J. Voss (BS '58) is currently working as an Account Executive for Agri Communicators in Columbus, Ohio. Mr. Voss retired in 1987 after 27 years with John Deere.

James A. Holmes (BS '68) recently e-mailed to report that after serving in many facets of the Navy, from diesel mechanic to Supply Lieutenant, he continues to provide naval support as a Senior Engineer with the TMA Corporation. The firm provides maintenance and modernization planning support for the Naval Sea Systems Command in Arlington, Virginia.

H. Chandler Taylor (BS '74) recently accepted a position with the Moneta Group, Inc., Clayton, Missouri, as a principal of the firm.

Dennis D. Bachman (BS '84) began his second year in January 1997 as Woodford County, Illinois Engineer. Among his many duties, Bachman is in charge of maintenance and keeping all of the 159 miles of county roads in good shape. He is also in charge of keeping bridges in good condition, as well as overseeing the construction of new ones, if needed.

David P. Ramp (BS '88/MS '90) recently moved to the Moline area. Dave started his new position with Deere as a Supply Management Engineer in the John Deere Seeding Group. Dave and his wife, Kathy, are now at home in Hampton, Illinois.

Shufeng Han (Ph.D. '93) is a Senior Engineer with Case Corporation in Burr Ridge, Illinois.

Rene J. Denhart (BS '93) and **Daniel J. Shunk** (BS '96) were married June 28, 1997 in St. Joseph, Illinois. They will be making their new home in Ankey, Iowa. Rene is working for DuPont Quality Grains and Dan is working for Ag Leader Technology.

John Schweitzer (BS '94) has accepted a new position in the marketing department of the John Deere Seeding Group in Moline. As of December 15, the Schweitzer's are making the Quad Cities their new home.

Lori R. Hummel (BS '95) and Robert S. Younker were married November 30, 1996 in Urbana, Illinois. They currently reside in Creston, Iowa. Lori is employed by the USDA/NRCS in Creston, Iowa.

Bingcheng Ni (Ph.D. '96) is a Senior Engineer with Case Corporation in Burr Ridge, Illinois.

Zhiwei Li (Ph.D. '96) e-mailed that he has accepted a position in August with ABB, Allen Town, Pennsylvania. It is a development engineer position which involves both hardware and software development.

Chia-Hui Chou (MS '97) has returned to Taiwan and is working as a Project Engineer with the Far East Machinery Company in Chiayi. He is in charge of design of cooling systems for the company's machines.

Julie A. Beveridge (BS '97) and **Jason T. Abbott** (BS '97) were married November 1, 1997 in Metamora, Illinois. The Abbotts will be making their new home in Metamora. Julie is employed by Morton Buildings and Jason is a test engineer with Caterpillar.

Mark Chaney (BS '97) and his wife, Laura, are the proud parents of a new son, Grant Michael, born August 19, 1997.

Benjamin L. Erickson (BS '97) has started working for Lipton making Ragu and Five Brothers Sauce in Owensboro, Kentucky.

Donors ...

During the past year the following alumni have donated money to the department. These funds are used to help provide scholarships to deserving students, defray travel costs to professional meetings and support special student projects for our open houses each spring. Some donations have been specifically designated to one of several special funds in our department. For more information on donor opportunities, please contact the department at 217.333.3570.

We would like to extend our grateful appreciation to all of you for your generous support of our programs.

Mr. Mervin G. Aden
Naurin E. Ahmad
Mr. & Mrs. Frank W. Andrew
Mrs. Alice A. Archibald
Mr. & Mrs. Richard Ayers

Mr. Christopher A. Behme
Mr. & Mrs. Wendell Bowers
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Mr. David W. Close
Mr. & Mrs. Kim E. Cramer
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Dr. Floyd E. Dowell
Mr. & Mrs. Jesse M. Dowell, Jr.

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Mr. & Mrs. James D. Erickson

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Mr. Carl L. Gowler

Dr. Walter Cecil Hammond
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Mr. & Mrs. John C. Tunnell

Mr. Kashmir S. Virk

Mr. & Mrs. Jay J. Wait
Ms. Audrey Williams-Lee

Thank you ...

The Food and Bioprocess Engineering Division and the department extends a "thank you" to the Seedburo Equipment Company for the use and donation of the PQ 100 Single Kernel Moisture Tester. The instrument is very valuable and has helped with the research on a single kernel moisture measurement. The moisture tester will be used for the annual AACC Corn Wet Milling Short Course and for moisture measurement laboratories. The state-of-the-art equipment adds immensely to our teaching and research programs.

The Agricultural Engineering Newsletter is a publication of the Public Relations Committee. Correspondence may be sent to:

Agricultural Engineering Newsletter
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1304 West Pennsylvania Avenue
Urbana, IL 61801
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217.244.0323 – fax
e-mail: mbm@ age.uiuc.edu

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Let us know ... Alumni Information Sheet

Name: _____ Year Graduated: _____

Home Address: _____

City, State, Zip: _____

Business Title/Profession: _____

Company/Institution: _____ Phone: _____
Area Code

E-mail Address: _____

News: _____

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The word "Attention" is rendered in a 3D, blocky font. The letters are white with a dark grey shadow underneath, giving them a three-dimensional appearance. The word is slanted slightly to the right.

History Book ...

Walt Lembke and Ben Jones have devoted countless hours in completing the history of our department at UIUC. The printing press is warming up and we will be providing details about the book in our next newsletter. Watch for it next spring!