

Spring/Summer 2005

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Let Us Know

Greetings from ABE at UIUC!

It is my extreme pleasure to write this message as the Head, as well as an alumnus, of the Department of Agricultural and Biological Engineering (ABE), University of Illinois at Urbana-Champaign. My 24 plus years of Journey after graduating from UIUC has taken me through the University of Houston, Rutgers University, and The Ohio State University, as well as many other places in the U.S. and around the world. I have been very fortunate to have many opportunities to meet and work with a large number of excellent people during those years. It is a great honor to be given the opportunity to return to UIUC. I had a wonderful experience as a graduate student in the department in the late 70's. I plan to make my new position another very enjoyable journey.

Building on the excellent success and reputation, the Department of Agricultural and Biological Engineering is well on its way to continue moving its goals forward. We are in a very good position to continue to do good science, engage in effective learning, and make long lasting impacts. In this past seven months since my return, the support from all who



Dr. K.C. Ting
Head of Department

have a vested interest in the Department has been most encouraging. The Department's ability to work as a team to face challenges, capture opportunities, solve problems, and get things done is most impressive. One good example was when fifty members of the ABE community participated in brainstorming sessions at a retreat at Allerton Park to develop the Department's strategic intent. It was my most productive and pleasant experience with this kind of gathering. By the end of the two day retreat, a draft of our strategic intent had been developed.

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Greetings from ABE at UIUC continued ...

The strategic intent consists of six parts: Core Values, Vision, Mission, Domains, Goals, and Indicators of Success. The process to finalize the strategic intent statements is on-going. However, at this time, I would like to share with you parts of the intent by paraphrasing our Vision and Mission:

Vision – We will be a premier agricultural and biological engineering department that is a leader in integrating biology and engineering and has comprehensive teaching, learning, and discovery programs; strong international recognition; well-sought out graduates; and a collegial professional and personal development environment for everyone associated with the department.

Mission – We bring life to engineering for the enhancement of living systems through providing holistic engineering and systems management educational experiences, conducting pre-competitive and translational research, and delivering value-added information, knowledge, and wisdom.

This is an exciting time for the Department of Agricultural and Biological Engineering. Please join us on our journey of carrying out our mission and fulfilling our vision.

Diane “Dini” Reid Relocates to Moline

Following eleven years in the department, Dini Reid has relocated to the Moline area. Dini served the department in many ways and will be greatly missed by not only the faculty and staff but the students as well. Dini joined the department in 1993 as Coordinator of Research Programs and provided support for the Soil and Water and the Bioenvironmental Engineering Sections. In addition to that responsibility, she became the “expert” on computer technology for the department. Her enthusiasm, helpful attitude, ability to solve problems and get things done is contagious and “rubbed” off on others in the Department



In 1996, Dini was promoted to the position of “Assistant to the Head.” As the department business and personnel manager, Dini managed all aspects of the

main office. In addition to doing that exceptionally well, Dini was a key contributor to the academic life of the department. She understood the students and curriculum better than anyone in the department. She was a great recruiter with students and parents about the potential of a career in Agricultural Engineering. Every graduate student began his/her University of Illinois career with an initial meeting with Dini. When former students stopped by

campus for a visit, they generally ask to see Dini as she was most frequently mentioned as having the greatest influence on their University of Illinois experience.

Alumni News

Thomas E. Briggs (MS 1998) is working on his Ph.D. in Wisconsin and will be finishing in May 2006.

Ryan D. Funk (BS 1989) is working as a Design Engineer for Vactor Manufacturing. After 7 years at Nacco and 5 years in North Carolina, he is very excited to be back in Illinois. Ryan and Chetna, have a daughter, Julia who is 14 months. They are at home in Ottawa, Illinois.

Michael R. Gratton (MS 2003/ BS 2002) married Danielle Fulk on June 26, 2004 in DuQuoin, Illinois. Michael and Danielle are making their home in Cedar Falls, Iowa.

Bingjun (Brian) He (PhD 2000) received the “*Teacher of the Year*” award in the spring 2004 from the University of Idaho, Department of Biological and Agricultural Engineering.

David A. Hess (BS 1996) stopped by the Department on June 21, 2005 to visit. David is currently working for CNH America LLC as a territory service representative for the New Holland brand of agricultural machinery. He is located in Sacramento, California with the Northern California and Nevada territory. David and his wife, Jill, have been in California since 1999. They have three daughters and a son.

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New Faces



Scott M. Bretthauer

On August 16, 2003, Scott M. Bretthauer joined the Department as Extension Specialist, Pesticide Applicator Training. Scott's primary responsibility is to provide pesticide application training as a member of the Pesticide Safety Education Program (PSEP). He specializes in application equipment and calibration. As a member of PSEP, Scott assists with conducting commercial applicator training clinics throughout Illinois, and writing training manuals and workbooks.

He is also coordinator of the Private PSEP, which trains the private pesticide applicators in Illinois, and manages the PSEP website.

In addition, Scott provides outreach on application equipment and technologies for Illinois in the form of talks, news releases, and fact-sheets. Recently he has been working to educate Illinois' commercial applicators and soybean producers in the proper equipment and techniques for spraying soybean rust, should this disease appear in Illinois.

Scott is currently finishing his Ph.D. in Forest Ecology. He received his M.S. and B.S. degrees from the University of Illinois Department of Natural Resources and

Environmental Sciences (NRES) in Forest Science.

Scott and his wife, Amy, have one son, Anthony Michael. Anthony arrived on December 28, 2003.



Ronda L. Sullivan

In October 2004, Ronda L. Sullivan joined the Department as Assistant to the Head. Ronda comes from the

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Swine Industry Honors University of Illinois Faculty

Four University of Illinois College of ACES faculty members have been cited by National Hog Farmer magazine as among the 50 men and women who have done the most to mold the swine industry over the past half century.

Retired faculty member Arthur J. Muehling, professor emeritus of our department, was named to what the magazine termed “a veritable Who’s Who in the U.S. pork industry.”

Art Muehling, who retired in 1992, was cited by the selection panel for contributions concentrated in three areas. He was a pioneer in the development of intensive systems for swine housing and was an early advocate of slotted floors. Before environmental factors became an issue, Art was developing and promoting “best management practices” for livestock manure management to protect the environment. Finally, his role in building close cooperation between

U.S. and European experts in the areas of swine housing and manure handling was noted.

“Art Muehling is truly one of the most influential people in the livestock industry,” said Loren Bode, former head of the Department. “During his career, the production and waste handling facilities were completely mechanized, and Art was the major force in directing that revolution in the livestock industry.”

“He devoted his entire energy to serving producers, and through his educational programs on swine housing, he has greatly strengthened the pork industry. He enjoyed an international reputation as ‘the’ expert in the areas of swine housing and livestock waste management.”



Arthur J. Muehling

Three retired faculty in the Department of Animal Sciences – Dick Carlisle, Stan Curtis and Gilbert Hollis were also honored. According to the magazine, the 50 honorees were selected from among 201 individuals nominated.

(Excerpt from article by Bob Sampson, Office of ITCS, College of ACES.)

New Faces

Ronda Sullivan Continued from page 3

Department of Animal Sciences where she held the positions of Business Manager and Administrative Clerk. Ronda has been at the University of Illinois since October of 1996. While working full-time Ronda was able to take classes and received her Bachelor of Science in AgriBusiness, Farm and Financial Management from

the University of Illinois in May 2004. Ronda and her husband, Gary, reside outside of Homer, Illinois. In her spare time Ronda likes to go camping, hunt, sew, and sing in her church choir. She enjoys spending time at home relaxing with her husband and 2 dogs. When you visit the department, please stop by and meet her.

Quarter Scale Tractor Pull



*John Eisenmann and
The Commander-in-Chief*

Our ¼ Scale Tractor design team did very well at this year’s competition which was held on June 2-5 in Moline, Illinois. Our team placed fifth overall!

Our Illini Pullers’ Commander-in-Chief was an excellent design and performed admirably. The design team’s rank among the 25 teams in the various categories was:

| <u>Category</u> | <u>Placement</u> |
|------------------------|------------------|
| Overall | 5th |
| Pull Competition | 3rd |
| Course Maneuverability | 6th |
| Report | 7th |
| Oral Presentation | 14th |
| Design Judging | 8th |

In addition, at the banquet, they received the first place trophy for the tractor having the best appearance. Between two pulling events, the first human wheelbarrow race was held and the University of Illinois Department of Agricultural and Biological Engineering is the current reigning champion of this event. Congratulations are extended to each member of the team and a special thanks to all the donors that provided support to this year’s entry.

Many parents and Illini Puller alumni attended the event and there was a very vocal cheering section with a lot of good food!

Presenting The Commander-in-Chief



Photographs of The Commander-in-Chief Courtesy of Brad Tadlock

Agricultural and Biological Engineering Students Come Up with a Better Machete ... and More

Thanks to the efforts of students from our Department, sugar cane cutters in South Africa could soon be using a better machete.

Nine students traveled to South Africa this past summer on a unique study tour sponsored by the College of Agricultural, Consumer and Environmental Sciences (ACES). They were teamed with students at the University of KwaZulu-Natal to work on a variety of engineering design projects that varied from machetes to irrigation.

For instance, undergraduate students Nick Jones and Anthony McCullough were members of the team that studied the cutting performance of the sugar cane machete.



Students sitting on rocks overlooking the Mfolozi Game Reserve in the KwaZulu-Natal Province in South Africa

They spent time cutting cane themselves to get a hands-on understanding of the labor involved; then they eventually worked on modification to existing machetes to improve their ergonomics and cutting efficiency. Nick and Anthony also redesigned the cutting blade on a motorized tool that would cut the cane more efficiently and economically.



Anthony McCullough gets hands-on experience in cutting sugarcane.



At the beach by the Indian Ocean - From left to right: Ed Couzens (tour guide), Laura Schutte, Scott Dixon, Geri Wellen, Zach Waite, Kevin Knapp, Seth Wenzel, Nick (Joseph) Jones, Justin Bruns, and Anthony McCullough.

Alan Hansen, associate professor in Agricultural and Biological Engineering, came to the University of Illinois from South Africa five years ago and accompanied the students on the trip. “I guess I’ve always had it in the back of my mind to take students back with me,” he said. “I wanted them to experience what it’s like, because it’s a great country and a great environment.”

However, Hansen and co-organizer Andrea Bohn, an assistant dean in the College of ACES, wanted to try something different from the typical study trip.

“I had the idea of the students working on projects while they were there,” Hansen said. “I knew that the engineering department in South Africa organized design projects similar to what we have here, so I suggested that we pair up the students and work as teams across the Atlantic.”

In addition to the machete work, other projects included:

Seth Wenzel and Zach Waite worked with their South African counterparts to design an automatic weighing system to accurately measure the amount of sugar cane lifted by a loader during harvest.

Geri Wellen and Laura Schutte developed a model for a low-cost microflood irrigation system that would make efficient use of available water and increase productivity.



Working on the irrigation project in the classroom – seated are Geri Wellen and Laura Schutte and standing are the two South African students making up the team.

Scott Dixon, Justin Bruns and Kevin Knapp incorporated a yield-mapping system onto a John Deere lawn mower. They set it up as a scale model for the kinds of systems currently used on modern combines, such as GPS (global positioning system).



The team working on the lawnmower – far left is Justin Bruns, middle is Scott Dixon and the far right is Kevin Knapp. The other two students are the South Africans working on the same project.

Some items of equipment, software and sensors were purchased for the projects and intentionally left behind for the South African students to use. Funding for these gifts was provided by Deere and Company and the University of Illinois Department of Agricultural and Biological Engineering.

In addition to the educational experience the students received, Hansen was pleased that they were able to experience typical South African conditions and environments through weekend excursions.

The students’ visit to two different game reserves gave them glimpses of a “whole cross section of wild animals indigenous to South Africa,” said Hansen. “We saw warthogs, wildebeests, elephants, giraffe, rhinos, hippos, crocodiles, and lots of birds. We visited a hide and were wonderfully entertained by some baboons there.”

“I know from the students that this trip had a great impact on them all,” Hansen said. “I believe it has broadened their outlook considerably and will have a lasting influence on their academic, professional and personal lives.”

Notable comments from a survey after the visit included the following: “This international experience was a unique opportunity in that we were not only exposed to the country itself but we were given a more in depth look at the people through our interactions with the students at the university as we worked on our projects.”

“I enjoyed the freedom we had to work in our own way and on our own time; I really felt like the American students and SA students helped and complemented each other, even though we had very different thought processes, strengths, and ways of approaching a problem.”

“Going to South Africa was an awesome experience I will keep with me all of my life. I had a wonderful time learning about the country and its people first hand. I also feel that I may have helped to introduce technology that will help improve their agricultural productivity in the future.”

“The South African experience was absolutely amazing! From an educational standpoint, I not only learned about sugar cane harvesting, but I also learned how to better work with people who I have no knowledge about with regards to their background and history. From a cultural standpoint, I realized how very fortunate I am to live in the United States and realized how many things I take for granted.”

The International Programs in Engineering provided a travel grant to cover 80 percent of the cost of airfare for the students, while the College of ACES and the Department of Agricultural and Biological Engineering also provided funding for the trip. A travel grant award from the Center for African Studies covered Al Hansen’s expenses.

A second trip to South Africa based on much the same format is planned for summer 2006. Hansen will be presenting research papers at two different conferences this year concerning the educational value of the South Africa visit.



The group assembled around a rhinoceros sculpture in the Mfolozi Game Reserve from left to right at the back are Anthony McCullough, Zack Waite, Scott Dixon, Nick Jones, Justin Bruns, and Kevin Knapp. From left to right at front are Dr. Alan Hansen, Laura Schutte, Seth Wenzel, and Geri Wellen.



The group also traveled to the Drakensberg Mountains and stayed at a lodge that overlooked a 300 foot waterfall.

(Excerpt from article by Leanne Lucas, Office of ITCS, College of ACES)

Steven M. Maddock Returning to Farm Fulltime!



Through the past 28 years, Steve Maddock has served the faculty, staff and students of the Department of Agricultural and Biological

Engineering and the Colleges of ACES and Engineering with integrity, dependability, loyalty and resourcefulness. On June 30, 2005, Steve retired with 31 years at the University of Illinois.

Early in Steve's work with the Department, he was introduced to the rigors of field data collection in the area of hydrology and sedimentology. He quickly learned to maintain the equipment, sometimes requiring removal, repair and re-installation. He also began dealing with the unpredictably nature of field experiments. Equipment breakdowns occur at most inopportune times, and in poor weather conditions. Through it all, Steve worked carefully and thoroughly and the data set that is still used to this day is testament to his hard work and perseverance.

Steve's contribution to the Department was not always tied to his work in the Soil and Water Resources Engineering Section. Whenever a task or project was large and needed dedicated personnel to "make it happen," Steve was asked to be a part of it. The Department of Agricultural and

Biological Engineering has depended on Steve for excellence throughout his 28 year career in the department. His valued contributions are well known by the faculty, staff and students of the department, as well as other departments in the Colleges of ACES and Engineering. On April 28, 2004 Steve received the Marcella M. Nance Staff Award at the Paul A. Funk Awards Gala in recognition of his outstanding contributions.

Steve plans to now devote fulltime to farming. He and his wife, Carol, operate a corn/soybean farm near Ogden, Illinois.

Alumni News

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Sherilyn R. Kosmos (MS 1994/ BS 1992) joined Woopert LLP as a site/civil design project manager in the firm's Downer's Grove office April 2004. She is responsible for managing projects to efficiently obtain necessary construction approvals. Sheri is a registered professional engineer and a two-time winner of the American Public Works Association project of the year award (environment, under \$2-million).

Roger D. Mayhew (BS 1961) retired on April 1, 2004 from Weasler Engineering, Inc.

Jason R. Meredith (BS 2000) married Dawn Robinson in Lake County, Florida on August 16, 2004. Jason left his University of Illinois position and began working full-time with Meredith Consulting. Jason and Dawn are at home in Tuscola, Illinois.

Mark F. Mohr (BS 1996) has left his position with the Department and is now working at Hypro as a Spray Tip Product Manager. Mark and his wife are now living in Lindstrom, Minnesota.

Seung W. Park (PhD 1981) was decorated with a medal from the Government of South Korea for World Water Day on March 22, 2004. The medal is based on the achievements and contributions to the national agenda on water management. Dr. Park is a professor at Seoul National University.

Mark R. Wilkins (PhD 2004/ MS 2001) is working as an Agricultural Engineer/Research Associate with the USDA/ Agricultural Research Service in Winter Haven, Florida.

Alan W. Schweizer (BS 2001) has moved from product support to engine electronics at Caterpillar. He is currently working on his MBA at Bradley.

Thank You Donors!

The Department of Agricultural and Biological Engineering would like to express its deepest gratitude for the donations from the following individuals and companies. The gifts of alumni and friends fund student leadership programs, instructional resources and offer many other educational experiences that extend beyond the classroom. Your gift will help to enhance the Department's reputation as one of the top agricultural engineering programs in the country.

Thanks are also expressed to those who gave to the Illini Pullers Quarter Scale Tractor Team. Your generous gifts not only helped to build the "Commander-in-Chief" this year, but helped the team participate in the competition held in Moline, Illinois June 2-5, 2005.

We appreciate your continued friendship and loyalty to the Department of Agricultural and Biological Engineering. Thank you!

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Department Highlights

Lynda Cabrales, graduate student in the Department, is this year's recipient of the Illinois Chapter of Gamma Sigma Delta Professional Development Award. Lynda was recognized at a banquet held on April 13 at the Levis Faculty Center on campus.

Award winners from the Department were honored at the Paul A. Funk Award Gala held on Tuesday, April 26, 2005. Congratulations to our winners!

Dr. Marvin R. Paulsen, Paul A. Funk Recognition Award
Dr. Alan C. Hansen – Faculty Award for Excellence in Teaching – College
Dr. Qin Zhang – Faculty Award for Excellence in Research – College
Scott M. Bretthauer – Team Award for Excellence – Pesticide Safety Education Program

On Saturday, March 12, Andrew C. Lenkaitis was knighted as a 2005 Knight of Saint Patrick! A wonderful surprise of the evening was when Loren Bode was knighted as an Honorary Knight of Saint Patrick! Congratulations to Andy and Loren!



Loren Bode and Andrew Lenkaitis at the Knight of St. Pat's Ball

Accenture/College of Engineering Awards Banquet ... The Accenture Outstanding Student and Faculty Awards Banquet was held on Monday, March 28, 2005. Alan Hansen was honored as an Outstanding Faculty Advisor. Outstanding Student Award winners were Adrienne P. Ostrom and Jonathan T. Roth.

Senior 100 Honorary ... The Student Alumni Association and the University of Illinois Alumni Association recognize outstanding seniors through the Senior 100 Honorary. Students from the senior class are selected each year for the honor based on their academic standing and their involvement, initiation and leadership in both campus and community activities. Three of our seniors made the list: Matthew Full, Kevin Knapp, and Andrew Lenkaitis.



Moving, changing jobs, new happenings ... Let us know

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Comments: _____
