



UPDATE

A Newsletter of the University of Wisconsin-Madison
Biological Systems Engineering Department

Winter 2005

Vol. 8, No. 3

—The Chair's Chips

This fall has been an exciting one on campus. We welcomed back our engineering students in September. This is always a time of high energy and expectations as the students work toward their BSE degrees and our professors give them the skills to make a difference in society. Many students reconnect with friends and make new ones in our Pre-professional Club and other department activities. On top of everything, the football team is doing well, too. So spirits are high in BSE and around campus.

For me, I've had the opportunity this fall to go on the banquet circuit to celebrate that a number of our distinguished faculty received recognition for their long careers of education and service. We had not just one but three opportunities to celebrate. I got thrown off my diet, but it was well worth it.

First, the department honored Jim Converse who retired after thirty-five years at the University. Jim's colleagues from Madison and around the country, former students, friends and family gathered to recall Jim's many contributions to the field and to do a bit of gentle roasting at the same time. When you're an expert in small scale waste systems, as Jim is, it wasn't hard for speakers to find a few humorous references to Jim's research. It was a great send off for Jim, who is already busy remodeling his home, as well as those of his children, but is finding time to help BSE by teaching a course this fall.

Next, Ron Schuler received the Career Award from the University of Wisconsin-Extension. This year, only two of these prestigious awards were handed out, with Ron the only person from Cooperative Extension being so honored. The breadth of Ron's career is a marvel to those he works with. He provides expertise

in agricultural machinery and safety, and runs the state's agrability program, field demonstrations at Farm Technology Days, and the 4-H youth mechanical sciences programs. He continues to manage the National AgrAbility Project, which helps farmers with disabilities to use technology to keep working on their farms. At the Extension-wide banquet, his colleagues recognized his truly outstanding educational accomplishments over his long career.



Lastly, Emeritus Professor Gary Bubenzer was honored by the College of Agricultural and Life Sciences (CALs) with the 2005 Distinguished Service Award. The award recognizes Gary's long career in education and his service to the agricultural engineering field. Gary has a long history of leadership in national agricultural engineering issues and continues to be active in Accreditation Board for Engineering and Technology (ABET) engineering reviews. The CALs Honorary Recognition celebrates extraordinary contributions to society and science.

We here in BSE know we have the best faculty around. It's nice when someone else acknowledges what we and our students already know, especially when good food is involved. I'm probably a few pounds heavier after attending these banquets, but being part of the crowd applauding the incredible careers of these fine individuals was worth the extra calories. I have been privileged to work with and learn from fine people like Jim, Ron and Gary.

THANK YOU!

Sincerely,

Patrick Walsh

BSE Department Chair

Thank You

The students and faculty gratefully acknowledge the following for their contributions to the various Biological Systems Engineering funds at the University of Wisconsin Foundation from 8/10/2005 through 11/11/2005.

David and Rhonda Bohnhoff
Theodore and Dona Brevik
Norma Brooks
Sandra Brown

Gary and Sandra Bubenzner
Frederick and Lois Buelow

James C. Converse
Dale Dobberpuhl
Marshall Finner
Brian Gutkowski

Mary and Brian Holmes
John and Judith Hummel

Janice Janssen
Andrew Jirovec

John Deere World Headquarters

John Deere Ottumwa Works
K.G. Karthikeyan

Richard and Cynthia Klemme

Kristine Lund
Mark A. Michelson
Richard Muck

Gene L. Nimmer
Leslie Paur

Daniel L. Pederson
Phillip Punswick

Edward J. Odgers
Dale Quam

Douglas and Mary Kay Reinemann

Rachael and Christopher Rudd

Kenneth M. Russell
Anita M. Thompson

Gerald T. Vogt
Patrick Walsh



Student News

Officers for the Pre-professional Student Club for 2005-06 are:

President - Christopher Tamm, Senior, Machinery Systems, Brillion, WI

Vice President - Richard Wipperfurth, Junior, Machinery Systems, Lodi, WI

Secretary - Amanda Crowe, Grad Student, Natural Resources and Environment, Ontario, WI

Treasurer - Nathan Dudenhoeffer, Junior, Machinery Systems, Corinth, VT

Webmaster - Aaron Flouro, Senior, Structural Systems, Tony, WI



CALS Representative - Robert Van Wyhe, Senior, Food and Bioprocess Engineering, Elkhorn, WI

Publicity Chair - Karl Crave, Senior, Agricultural Business Management, Waterloo, WI,

Polygon Representative - Andrew Kultgen, Senior, Machinery Systems, Port Washington, WI

AEM Report - Travis Braun, Junior, Machinery Systems, Cato, WI; Amanda Crowe, Grad Student, Natural Resources and Environment, Ontario, WI

Tractor Design Team - Christopher Tamm, Senior, Machinery Systems, Brillion, WI; Bryan Yanke, Senior, Machinery Systems, Green Bay, WI; Garritt Boettcher, Senior/GRAD, Structural Systems, Osseo, WI

Lawnmower Clinic - Matthew Digman, Grad Student, Machinery Systems, Bloomington, WI; Andrew Kotloski, Grad Student, Machinery Systems, Berlin WI; Naomi Uhlenhake, Senior, Natural Resources and Environment, Salem, WI

Student News

Once again this fall there are many student activities taking place. On September 14, nearly fifty students, faculty and staff attended the student-faculty mixer where faculty provide the food and beverages to welcome the students back to campus for the fall semester. After the meal and introductions, the student club had their business meeting with more than thirty in attendance.



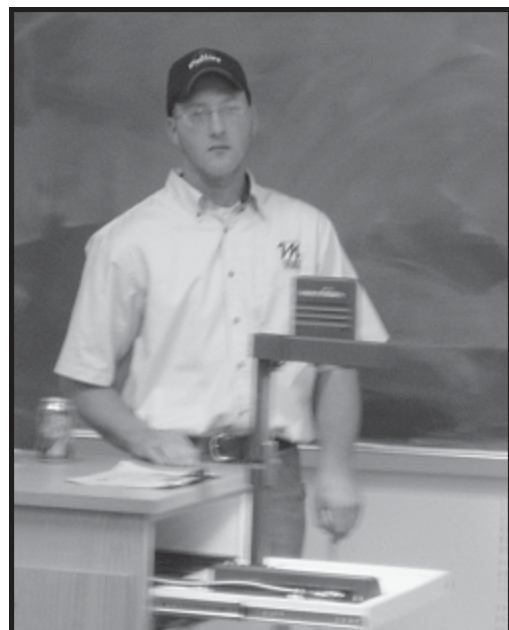
Student Faculty Mixer

The Pre-professional Club's second meeting of the semester was held October 12, when five students discussed their summer engineering employment. Student club president, Chris Tamm was employed with Miller St. Nazianz where he tested a forage box design. Naomi Uhlenhake and Jon Ardelt worked at Resource Engineering Associates doing survey field work, technical writing, Autocad drawing, and permit processing. Aaron Flouro worked at Wick Buildings in production engineering, and Amanda Crowe was employed at USDA-NRCS doing engineering work.

The 2006 ASABE Quarter Scale Tractor Team has a new set of rules to follow for the national competition and is in the initial steps of their design process. They plan to have a two-wheel design instead of the four-wheel design they used for the past four years. Also they will be allowed to use multiple engines in their design. They are planning for three engines at this time.

The student club contributed \$100 to the Hurricane Katrina Fund through a college fund drive organized by the College of Agricultural and Life Sciences Student Council. Several students attended the Wisconsin ASABE Section meeting on October 5 where they observed a cranberry harvest near Wisconsin Rapids. The student club is planning field trips to northeastern Wisconsin and southern Wisconsin.

On November 3-5, the student club held their annual Lawnmower, Snowblower and Rototiller Clinic. For a cost of \$25, the students service these machines including a thorough cleaning, engine oil change, air cleaner service, and a spark plug check. For the mowers they also sharpen the cutting blade and balance it. They also provide pickup and delivery for an extra fee. With nearly 100 machines being serviced, the students expect to net nearly \$2,500 to be used to support student activities.



Chris Tamm presiding at student club meeting.

Faculty News

Bubener receives the CALS Distinguished Service Award

On October 27, 2005, Emeritus Professor Gary Bubener received the CALS Distinguished Service Award which is given annually to a CALS faculty or staff member for meritorious contributions to the College, University and people of Wisconsin.

Bubener, who retired in 2002, joined the faculty of the Department of Agricultural Engineering (now Biological Systems Engineering) in 1969, after earning his doctorate in agricultural engineering from the University of Illinois. He served as BSE department chair from 1983-88.

Bubener's research was directed at controlling soil erosion with a focus on understanding the mechanisms of soil movement due to wind and water and how to control that movement. He used radioactive cesium (deposited in soil by fallout from nuclear-weapon testing) to track and define soil movement in field studies of erosion and deposition. Bubener worked on problems associated with stormwater runoff and construction-site erosion.

Bubener collaborated with Wisconsin Department of Natural Resources staff to implement the Stormwater Management Practice Manual. He developed educational modules used statewide for builders, contractors and design engineers about proper stormwater management practices.

Bubener and his former graduate student, Aicardo Roa-Espinosa (Ph.D, '89), conducted research using polymers to control soil erosion due to wind. The polymer causes soil particles to bond together which reduces the impact of wind. Roa-Espinosa and Bubener recently adapted the method to reduce dusty conditions when helicopters land on soil surfaces susceptible to erosion caused by the air currents produced by the aircraft. This technique lessened the visibility problems for landing and the risk of maintenance problems created by dust swirling in and around the helicopter.

Bubener carried a heavy teaching load in the department, teaching four or five courses per year, including the time-consuming surveying course, which he taught throughout his career at the College. He taught classes at all levels, from Short Course to graduate, and won teaching awards from both CALS and the College of Engineering.

Bubener has held more than a dozen leadership positions in the American Society of Agricultural and Biological

Engineers. He was named a Fellow of the ASABE in 1991, and received the prestigious Hancor Soil and Water Engineering Award from the society in 1998 for his many contributions.

Bubener, representing ASABE and the agricultural engineering profession, was active in the Accreditation Board for Engineering and Technology, which accredits university engineering programs. He served as

representative for agricultural engineering programs on the Engineering Accreditation Commission and developed materials for ABET 2000, the newly implemented national accreditation standard. Bubener served on and was the leader of several accreditation site-visit teams. He has been instrumental in developing criteria for accreditation, as well as training people to collect and develop information for accreditation reviews. Bubener trained a number of ASABE members to be ABET evaluation team members. He remains involved with ABET in his retirement, and is currently working with BSE and the College of Engineering to prepare for our 2006 ABET accreditation.

After retirement Gary and his wife Sandra purchased a farm near New Glarus where they built a new home. They are doing some farming which includes raising sheep and chickens and producing eggs, amongst other activities.



Acting Dean David Hogg congratulating Gary. Bubener

Faculty News

Schuler Receives Career Award from the University of Wisconsin-Extension

At the September 22, 2005 University of Wisconsin-Extension Awards Banquet, Ron Schuler was presented a Career Award for being a national leader in educating producers and youth about agricultural technology and adapting those technologies for those with disabilities. Schuler has been involved in extension programming since 1984, when he joined the department faculty.

Schuler serves as the statewide agricultural field machinery extension specialist providing educational programs on machinery management, selection, and proper operation. He is responsible for coordinating the field machinery demonstrations at Wisconsin Farm Technology Days, formerly Wisconsin Farm Progress Days.

In youth development programming, he has been the statewide specialist responsible for 4-H tractor, small engine, and aerospace projects. He was the



Acting UW-Extension Chancellor Marvin van Kekerix congratulating Ron Schuler.

of the team responsible for developing the National 4-H Small Engine curriculum in 1999, and for revising the curriculum in 2005. For the annual National 4-H Engineering, Science and Leadership Event, he serves as vice-chair of the management committee and the leader for the small engines section of this event.

Schuler has been the project leader on the USDA-funded AgrAbility of Wisconsin and the National AgrAbility Projects which provide education and assistance to farmers with disabilities. The state project first received funding in 1991, and the staff has provided direct assistance to more than 1400 Wisconsin

farmers with disabilities. The national project provides support for the twenty-five state and regional AgrAbility projects.

Schuler has received state awards from Agricultural Agents and the 4-H Youth Developments Agents. In 2004, he was elected Fellow in the American Society of Agricultural and Biological Engineers.

In Memoriam

Philip Bautz

Philip Bautz, 69, passed away September, 29, 2005 in Madison, WI. Phil was employed in the department as a mechanic from December, 1960 until March, 1974. He fabricated and helped design research equipment for such projects as mechanical fruit harvesting, dewatering lake weeds, and extracting protein-rich juice from alfalfa and similar plants to supplement the diets of people whose usual diets lack protein. While employed in the department, Phil completed a Bachelor of Science degree in Agriculture with a major in Agricultural Engineering. He resigned in 1974 to fill a Project Engineer position with Dairy Equipment Company in Madison, WI. Since that time he held positions in engineering and investment.

Alumni News

William (Skip) Baum, Jr., BS '73, is a structural engineer with Croix Custom Concepts and he lives in Prescott, WI. He is a registered professional engineer in Wisconsin, Minnesota, North Dakota, South Dakota, and Montana.

Kelly Granberg, BS'03, is a senior engineer with the Lake County Planning Building and Development Department and lives in Libertyville, IL. Recently, Kelly celebrated two years with Lake County and wants to attend graduate school next fall, and is looking into various civil and environmental engineering programs.

Jill Huenink, BS '03 (formerly Grodecki), has joined John Deere at the Tractor Assembly Plant in Waterloo, IA as a manufacturing engineer. She had been employed at Diedrichs and Associates in Cedar Rapids, IA.

Michael S. Kahl, BS '85, is the owner of Thermal Green Concrete Homes and Surfaces in Madison. He started this new company which builds energy-efficient concrete homes and opened an increte concrete stamping business in Madison. Increte is decorative concrete.

Robert Pofahl, BS '71, MS '73, was elected to the Board of Directors of the Wisconsin Agricultural and Life Sciences Alumni Association (WALSAA) at a meeting on September 10, 2005.

In the October 2005 issue of **THE BADGER COMMONTATER**, a magazine for the potato industry, Brad Igl, BS'95, MS'97, and his family are featured in an interview. Last spring, Brad returned to the family farm north of Antigo to work with his father and brother. They are certified organic potato growers and sell their potatoes under the brand name, 'Organic Spudies'. Before returning to the farm, Brad worked for eight years as a product design engineer for John Deere in Horicon, WI.



The October 2005 issue of the Badger Common'Tater features BSE Alumnus, Brad Igl, BS'95, MS'97, and his family.

Thanks to the support of our alumni and friends, twelve students received scholarships for the 2005-06 school year totaling nearly \$10,000.

The scholarships and student recipients are:

Ham Bruhn BSE

Garritt Boettcher, Senior/GRAD, Structural Systems, Osseo, WI

Dick and Grace Stith

Eleni Manti, Senior, Food and Bioprocess Engineering, Nicosia, Cyprus

Ham Bruhn BSE

Nathan Dudenhoeffer, Junior, Machinery Systems, Corinth, VT

Lynndon and Norma Brooks

Jordan Gosz, Junior, Food and Bioprocess Engineering, Manitowoc, WI

WI Agricultural Engineer

Kody Habeck, Sophomore, Machinery Systems, Milton, WI

Ham Bruhn BSE

Amy Jacobs, Junior, Food and Bioprocess Engineering, Green Bay, WI

WI Agricultural Engineer

Kari Jordan, Junior Food and Bioprocess Engineering, Cross Plains, WI

Vicky Lee Hirsch

Robert VanWyhe, Senior, Food and Bioprocess Engineering, Elkhorn, WI

Don S. Montgomery

Aaron Wepner, Junior, Machinery Systems, Eldorado, WI

Schroeder BSE

Richard Wipperfurth, Junior, Machinery Systems, Lodi, WI

Roger Ambrose

Bryan Yanke, Senior, Machinery Systems, Green Bay, WI

Gail and Janice Janssen BSE

Matthew Bretl, Senior, Natural Resources, Madison, WI

— Biological Systems Engineering Fund —

As 2005 draws to a close, please give some consideration to contributing to one of the Biological Systems Engineering Department Funds listed below:

Ham Bruhn BSE Scholarship
Ham and Janet Bruhn Distinguished Graduate Fellowship
Gail and Janice Janssen BSE Scholarship
Sixties Decade Computer Lab Equipment
Rural Energy Issues
BSE Student Activities Fund
Wisconsin BSE Scholarship
Agricultural Safety and Health

Orrin Berge Scholarship
BSE General Fund
Lynndon and Norma Brooks Scholarship
Dick and Grace Stith Scholarship
Robert and Willa Meier Scholarship
Ervin Schroeder Scholarship
Farm Machinery Research

From the University of Wisconsin Foundation:

We sincerely wish to thank our alumni and friends who have generously supported the College of Agricultural and Life Sciences Department of Biological Systems Engineering. Your gifts today are more important than ever as the University faces challenging budget constraints. Gifts made to the Department of Biological Systems Engineering help us with scholarship, building remodeling, endowed professorship and graduate fellowships, and carrying on our tradition as leaders and innovators in the biological systems engineering field.

An annual household gift of \$500 or more qualifies you and your spouse for membership in the College of Agricultural and Life Sciences Dean's Club. As a member of the Dean's Club you will receive special invitations to the Dean's Football Brunch held in the Fall, the annual Dean's Club Recognition program in May, as well as periodic mailings about the College and a Dean's Club Pocket Calendar. An invitation to join the prestigious Bascom Hill Society is extended to those who provide support of \$25,000 or more to the department or to a specific project or program of their choice. You can pledge your commitment over a 10-year period, provide for a gift in your will, or give a gift of annuities or appreciated stock. If you have specific questions about giving, please contact Sandra Brown at the UW Foundation (Phone: 608-265-2925; e-mail: sandra.brown@uwfoundation.wisc.edu).

Department of Biological Systems Engineering Fund

- I/we would like to join other alumni and friends in support of the Department of Biological Systems Engineering Fund.
- I/we wish to pledge \$_____ over _____ years. Please remind me of my pledge in _____ (month).
- I/we contribute \$_____. My/our contribution is enclosed. Make check payable to University of Wisconsin Foundation.
- My company will match this gift; company form enclosed.
- I/we wish to have my contribution support _____ fund.

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

E-Mail: _____

Please charge my gift of \$_____ to (circle one): MasterCard Visa American Express

Card number _____ Expiration date: _____

Cardholder's name as it appears on credit card (please print): _____

Cardholder's Signature: _____ Date: _____

Please return this form to:

**University of Wisconsin Foundation, US Bank Lockbox, PO Box 78807
Milwaukee, WI 53278-0807**

Alumni Update

Name: _____

Degree and Date(s): BS () MS () PhD ()

Home Address: _____

E-mail Address: _____

Phone Number: _____ Fax Number: _____

Position: _____

Employer: _____

News to share: _____

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University of Wisconsin

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