

BSE Update

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

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Summer 2011

Remarks from Chair Richard Straub

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As summer rapidly winds down and we prepare for another academic year, the Department is a busy place. While we graduated a large Senior class last year, our enrollment continues to climb with about 115 undergraduates in our program. Many students learn of our program as enrolled UW-Madison undergraduates and enter as transfer students from other programs. Our introductory course, BSE 249, Engineering Principles for Biological Systems, looks like it will have over 40 students – more than doubling its enrollment of a few years ago. This growth is indicative of the interest in bio-based engineering including our historical agricultural engineering roots. I note with pride that my own son, Brian, will be a freshman this fall in BSE. While our student numbers are strong, we always welcome more excellent students, so please continue to act as our ambassadors in promoting the program.

Departmental graduate student numbers and research support also have remained strong. Our graduate student numbers have been bolstered by very strong efforts by some of our recent faculty hires: Becky Larson, bio-waste engineering; Rob Anex, bio-energy and environmental sustainability; and Troy Runge, bioenergy conversion technologies. In some of our areas (notably machinery systems) it has been hard to attract qualified graduate students because of the strong demand by industry. At the International ASABE meeting this summer, one machinery company alone was recruiting to fill about 90 engineering positions. The Food and Bioprocess area also has maintained a strong job outlook.

BSE faculty, staff and students continue to receive recognition for their outstanding efforts and accomplishments. Congratulations to David Bohnhoff (ASABE Standards Developer Award and the Arthur J. Maurer Second Mile Award), Xuejun Pan (Alfred Toepfer Faculty Fellow Award), David Kamel (Ag Research Stations Service Award) and Debby Sumwalt (Classified Staff Recog-

nition Award) for their awards and the efforts recognized. Graduate students Stephanie Prellwitz, Kody Habeck, Tom Hoffman, and Craig Slattery also received recognitions. Our alumni also continue to receive recognition for their effort. Aicardo Roa-Espinosa (PhD, 1986) received a Wisconsin Alumni Association Award, and Richard Lynch (BS Construction Admin, 1974) has been selected for a College of Engineering Distinguished Service Award. Naomi Uhlenhake (BS BSE, 2006) was selected by ASABE for recognition as a young professional — congratulations to them all!

One area of need for which I would like to solicit your help is in identifying resources that can help grow the scholarship support available to our undergraduate students. Tuition, books and other educational expenses have unfortunately risen at a very high rate over the last decade as public support for education has declined. Resident tuition is now about \$9700—this is over 27 times what I paid as a freshman! This has increased the financial stress on our students, and as a department, we need to develop resources that can provide assistance as well as recognize accomplishment. Such financial and scholarship aid has also been identified as a priority by our Campus, as many of you already know. Any assistance that you can provide or help identify would be greatly appreciated by our students. While I know that these are difficult economic times for us all, such support is really an investment in sustaining our discipline's and our student's future, and development of such scholarships is often done as part of a long-term plan. Please let me know if I can provide more information on this or if you wish to help. I also want to thank those of you that already generously provide support for BSE.

Also, please keep us informed of any news or comments you would like to share. As our alumni, you are all important to us.

Let's all have a great fall.

Student Update...

Congratulations BSE Spring 2011 Graduates:

Steven Anderson
(Machinery Systems)

Nicholas Baltz
(Machinery Systems)

Timothy Blahnik
(Machinery Systems)

Nick Deines
(General Option)

Adam Gardebrecht
(Food Bioprocess)

Chris Hargot
(Machinery Systems)

Leah Kammel
(Natural Resources)

Jay Kuzia
(Machinery Systems)

Kao Lor
(Machinery Systems)

Michael Muehlbauer
(Structures)

Matthew Pomerleau
(Natural Resources)

Chelsea Rowe
(Natural Resources)

Lauren Runge
(Food Bioprocess)

Lynn Singletary
(Natural Resources)

Kaitlin Slimak
(General Option)

Luke Syse
(Food Bioprocess)

ASABE News by President Tom Zwald

Being the leader of ASABE has been interesting and fun this past semester.

At this year's Engineering Expo, we showcased three exhibits. All of the event goers were very interested in seeing the BSE 1/4 tractor since many were not familiar with tractors in general -- much less one designed for pulling.

We also showcased a demonstration of a dairy barn ventilation system. This allowed event goers the opportunity to see how simple processes can produce energy efficiencies and reduce energy costs. The third exhibit we had was a sustainable method for storing produce throughout the winter. The event goers were also very interested in this due to the fact that the produce could be stored over winter by running only two fans.

ASABE also hosted a day on the road in Southeastern Wisconsin this past semester. We toured Case IH in Racine, Natural Green Farms which features an aquaponics farming system, and SC Johnson which has buildings designed by Frank Lloyd Wright. We finished the day watching a Brewers baseball game. At Case IH we were taken to the assembly line and got to watch tractors roll off the assembly line. At



Tom Zwald
ASABE President

Natural Green Farms we were able to witness a fish farm where the water from the fish tanks was used to water and fertilize lettuce. On our third stop at SC Johnson we got to see some very unique buildings constructed in mannerisms that are not typically used. We ended the day with a tailgate in which the weather did not cooperate, but thankfully Miller Park has a roof and the Brewers won the game.

We ended the semester with a meeting that featured a cookout with faculty and staff, and Chair Richard Straub honored the BSE graduating seniors.

Overall it has been a very fun and informative year. I have truly enjoyed serving as the president this past semester, and I am looking forward to returning in the fall and resuming the monthly meetings. Hopefully this upcoming fall will be as good as the semester that we recently ended, full of many interesting stories and experiences.



Congratulations BSE Badger Pulling Team for placing 6th for performance in the tractor pull. The team placed 10th overall out of 26 teams at the 14th Annual ASABE International 1/4-Scale Tractor Student Design Competition, held June 2-6, in Peoria, IL.

Student Update...



Kody Habeck and Tom Hoffman demonstrate their "Clean-Seat" invention. Watch it in action at <http://www.youtube.com/watch?v=NdZzer38aCg>.

Grad Students Habeck, Hoffman and Slattery awarded "The Most Value Generated" for "Clean-Seat"

BSE Graduate Students Kody Habeck, Tom Hoffman and Craig Slattery were awarded "The Most Value Generated" project out of 80 entries from the entire UW system for the 2011 Wiscontrepneur 100 Hour Challenge. Professor Kevin Shinnars is the advisor for all three grad students.

Grad Student Prellwitz wins AWAR Best Student Poster

Stephanie Prellwitz, BSE Graduate Student, won the Best Student Poster Award at the Annual Meeting of the American Water Resources Association (AWRA), Wisconsin Section, held in Appleton, WI March 3-4, 2011. The title of her poster was "Evaluating Soil Stability within Wetland Treatment Swales for Urban Runoff" and the theme of the conference was "Wisconsin's Role in Great Lakes Restoration". Stephanie's advisor is Anita Thompson. Congratulations Stephanie!

BSE Grad Students & Post Docs continue to Team-Up to have fun

BSE grad students and post docs continue to have fun playing Intramurals. In addition to volleyball and basketball, the team has now started playing soccer. The camaraderie has brought the team together on and off the field. New players are always welcome to join the team named "Gala and the B23s", after Sonia's daughter and the grad student's room number where the team was formed.



ABOVE: BSE Volleyball Team members Simone Kraatz (standing left), Shane Williams, Anurag Mandalika, Shashi Dhungel, Patrick Triscari, Thais Fonseca, BSE Friend Kyana Young (front left) and Damodhara Mailapalli. **LEFT:** BSE Basketball Team members Sami Khanal (left), Sonia Ares-Gomez, BSE Friend Aaron, Asli Ozkaynak, Mustafa Ozkaynak, Yi-Cheng Wang, Anurag Mandalika, Damodhara Mailapalli, Simone Kraatz and Thais Fonseca.



Faculty & Staff Update...

Skjolaas & Nelson Lead First Responders on Farm Accident Rescue Training

Cheryl Skjolaas and Jeff Nelson travel the state to train firefighters and emergency medical technicians (EMT) with hands-on techniques that will help save lives on farms. Farming is a family tradition, but farms can be very dangerous places. Farm accidents can cause amputation, mangled limbs, head trauma, lacerations, or spinal injuries. The worst incidents can even cause death. About 70 people die each year in Wisconsin from accidents caused by tractor rollovers, power takeoffs, silo and grain dryers, cattle and livestock, wagons, and other hazardous materials.

Skjolaas, the BSE Interim Director for the Center for Agricultural Safety and Health, is a farm safety specialist and knows the dangers that can occur on farms in Wisconsin. "I was getting requests from local fire departments and UW Extension Agricultural Agents for farm rescue training," said Skjolaas. "While we keep the main emphasis on prevention, it was hard to not address this need." Skjolaas started the training in 2007 to better educate first responders who normally don't have a lot of experience on farm-related accidents. The main focus of this hands-on training is to teach the participants how to best handle the incident without putting their own lives in danger.

"We're used to grabbing the Jaws of Life and chopping off the door of a wrecked car," said Nelson, a



Cheryl Skjolaas demonstrates a farm rescue technique using plywood walls and a vacuum machine for a victim buried in grain. Jeff Nelson, right, also assists in leading the workshops.

BSE farm equipment expert and a volunteer firefighter. "But because of the strength of the farm machinery metal, that's not possible. You've got to disassemble more. You've got to bend more than cut." The training includes a demonstration of how to safely rescue a victim buried in grain. In this case, a wall of plywood is built around the victim and the grain is removed using a vacuum machine. To better accommodate the increased demand for this training, Skjolaas and Nelson are planning annual workshops in every corner of the state to better prepare first responders to save lives on Wisconsin's farms.

BSE Says Happy Retirement to Professor Walsh and Financial Specialist Cary-Pope

Patrick Walsh - Pat retired on January 3, 2011 with more than 30 years of State of Wisconsin service. Pat joined the BSE faculty in 1986. During his time at UW-Madison, Pat made outstanding contributions to the development of improved environmental management of waste in the United States. His efforts in teaching, research and Extension have been in response to the great need for developing technically acceptable methods for treatment, recycling and disposal of waste. He was a co-founder of the UW-Extension Solid and Hazardous Waste Education Center, a statewide program providing pollution prevention and sustainable environmental management information and education to Wisconsin communities and businesses. Pat has been the senior author or contributing author on numerous publications addressing proper methods for landfill design, and waste composting, recycling, and transport. Pat's commitment to outreach has reflected his broad knowledge, including presentations addressing solid and hazardous waste management, energy conservation and renewable energy, and the emerging bioeconomy. He has also been a long time member of the UW System Solid Waste Research Council, which provides support for waste related research at UW Campuses. He has worked closely with state and federal environmental agencies including the Wisconsin Department of Natural Resources and the USDA Natural Resource Conservation Service.

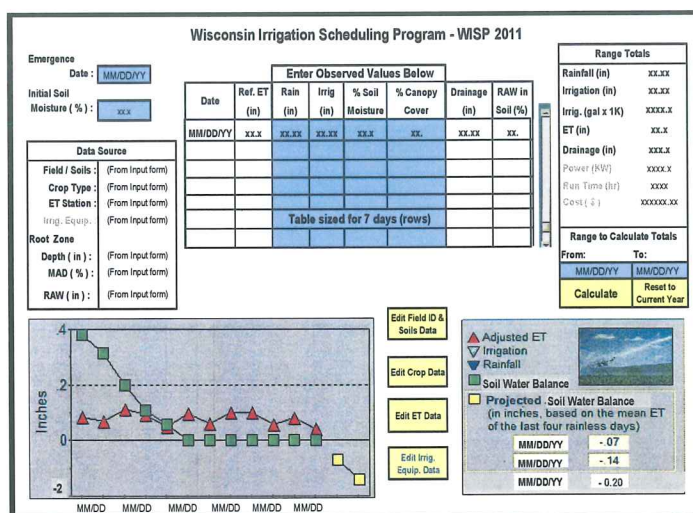
Jackie Cary-Pope - Jackie retired on March 31, 2011 with more than 30 years of State of Wisconsin service. Jackie worked for 16 years with BSE. Over the years, Jackie's responsibilities changed with BSE. She began as a part-time Program Assistant and retired as the Department's Financial Specialist 3. Jackie started working for the State in 1981 at the UW Hospital. Ten years later she came to work for the University.

Faculty & Staff Update...

WISP 2011 - New Tool for Irrigation Water Management

Every successful grower knows the importance of adequate soil moisture to crop yields and quality. Irrigating in the absence of a soil water management plan that includes irrigation scheduling and soil moisture monitoring tends to result in over irrigation. Good soil water management will not decrease total plant consumptive water use, but if properly implemented and followed should eliminate over irrigation. Over irrigation can increase nutrient and pesticide losses to groundwater and wastes money and energy on pumping. Maintaining optimal soil moisture conditions and minimizing environmental risk for crop production can be a challenge, but thankfully there are tools to assist in meeting this challenge.

Irrigation scheduling and soil moisture monitoring used together as part of a soil water management plan can help to better manage soil water. Irrigation scheduling has been promoted in Wisconsin since the mid 1980s starting with the publication of UWEX Bulletin A3600 - Irrigation Water Management in Wisconsin - the Wisconsin Irrigation Scheduling Program (WISP) written by Curwen and Massey. Subsequently, several computer software tools were developed using methods put forth in A3600 to assist with irrigation water management decisions. This project is a collaborative effort between the Departments of Biological Systems Engineering and Soil Science to capture the best features of the existing schedulers while at the same time incorporating current technology. WISP 2011 will be developed in several phases that will progressively increase program functionality and features over time. The initial release (Phase I) is anticipated to occur in early summer 2011 with upgrades to follow depending



on the availability of resources. Some of the features and functionality currently planned for inclusion into WISP 2011 include:

- The ability to automatically retrieve and use daily evapotranspiration (ET) values for a specified location from the statewide Agricultural Weather Observation Network (AWON) system.
- Allow growers to ground truth the model-estimated daily crop canopy cover data with observed canopy cover data at a frequency of their choosing.
- Allow growers to correct the model-estimated percent soil moisture with observed soil moisture data at a frequency of their choosing.
- Ability to forecast soil moisture conditions two to three days into the future using past ET data initially and later using National Weather Service forecast data.
- The future ability to allow growers to automatically download their rainfall and irrigation data directly into the program.
- The ability of WISP to run on cell phones and other hand held devices with web access and the ability to easily archive a grower's irrigation history on a local computer.

The increasing cost of energy, nitrogen and pesticides along with increased concerns for groundwater quality make sound soil water management for agricultural production systems good practice. New scheduling tools like WISP 2011 can automate data input and calculations. Soil water management for vegetable crops in sandy soils will always be challenging, but tools exist to make them more manageable.



Faculty & Staff Update...

BSE Adjunct Professor Roa-Espinosa receives WAA Award



Aicardo Roa-Espinosa
MS'85, PhD'89



*"Wisconsin opened its doors to me.
I came to a great university with great
people in the greatest state."*

On April 28 Aicardo Roa-Espinosa gave a seminar to BSE faculty, staff and students on the technologies developed by Soil Net. The seminar covered the topics: treatment of fiber for water retention, ethanol production, a simplified process of vegetable oil refining, and Biodiesel production fiber treatment as a carrier of microorganisms, fertilizers, herbicides, and hormones. After the informative seminar, a reception was held by BSE. This was followed by an Awards Celebration where Roa-Espinosa and eight others were given the Distinguished Alumni Award by the Wisconsin Alumni Association (WAA)

The WAA has been presenting awards to the most esteemed graduates of UW Madison for their professional achievements, contributions to society, and support of the university since 1936. Roa-Espinosa has excelled in all these categories and thus was one of the 75th Distinguished Alumni Award Honorees. As president of Soil Net LLC, a global industry authority in the use of biodegradable polymers in agriculture, the first president of Centro Hispano of Dane County, and an honorary fellow of the College of Agriculture and Life Sciences Roa-Espinosa has served his community and his university. Roa-Espinosa grew up in Columbia and attended his hometown university to study agronomy engineering. He then worked in Columbia's sugar industry for several years. There, in 1972, he was introduced to the use of polymers in clarification of sugar cane from water. It was the unofficial start of Soil Net, but it would be 15 years before Roa-Espinosa would put his idea into practice.

Roa-Espinosa moved to the United States, and studied English at Louisiana State University while working several jobs to make ends meet. He was accepted to the University of Wisconsin, and felt at home in the Madison community. "I think I miss most the students that I had as classmates," he says. "This acceptance from them — that it doesn't matter how different you are. You are one of us. I miss the life of the university. I didn't have too much, but I was very happy," he said. While earning his master's and doctoral degrees in agricultural engineering, Roa-Espinosa put his interest in the use of biodegradable polymers in agriculture into practice. In 1986, while pursuing his PhD, he wrote a paper on physical sedimentology and how polymers work in sediment, a first step in outlining his vision for what would become Soil Net. In 1994, he worked for the Dane County Land Conservation Department, he completed the first physical test of his idea to stem erosion control through the use of polymers, and it worked. He developed the product, testing different types of polymers and the combinations that worked best, when his first customer came. His award-winning dust-control developments for landing helicopters in the 2003 Operation Iraqi Freedom campaign for the U.S. Marine Corps.

Shortly after, he formed Soil Net LLC, a global leader in supplying specialty polymers for erosion control, water clarification, oil separation and clarification, waste separation, sugar cane clarification, and manure solids separation and solidification in the United States, Southeast Asia and Colombia. The company now has research labs in Zhuhai, China, as well as its research lab and headquarters in Belleville, Wisconsin. Roa-Espinosa's ties with the sugar-cane industry led to his partnership with CLAYUCA, a Latin American and Caribbean consortium to support research and development of cassava, an extensively cultivated crop of South America, and other research projects in Cali, Colombia.

Remembering his roots, Roa-Espinosa founded and served as the first president of Centro Hispano of Dane County in 1983. First created to assist Cuban refugees in Wisconsin, Centro Hispano expanded and now serves cultural, educational, and language-related needs of Latinos throughout Dane County. And he is still a passionate advocate for UW-Madison, as an honorary fellow of the College of Agricultural and Life Sciences, and continues to support student research in collaboration with his laboratory in Belleville.

Faculty & Staff Update...

And the Award goes to...

Congratulations to **Dave Bohnhoff** who was honored with the ASABE Standard Development Award on August 8. Dave, a 32-year ASABE member, will be recognized during the 2011 ASABE Annual International Meeting in Louisville, KY for his exemplary leadership and work in the revision of Design Requirements and Bending Properties for Mechanically-Laminated Wood Assemblies, and development of Post Frame Building System Nomenclature.

Congratulations to **Xuejun Pan** who was selected to receive the 2011-2012 Alfred Toepfer Faculty Fellow Award. This award recognizes not only Jun's many accomplishments to date but more importantly his potential for continued growth and greater success. In establishing this award, it was the intention of the Alexander von Humboldt Foundation to support the development of promising CALS faculty as they progress toward tenure.

Congratulations to **David Kammel** who received the 2011 Agricultural Research Stations (ARS) Service Award at the annual Recognition Awards reception and dinner on January 6. David has provided invaluable effort and expertise in many upgrades of station facilities. His help was key to the successful design and construction of pesticide management facilities on several stations. With his guidance, station superintendents were able to act as general contractors. They're not trained for that job, but with David's help, they did it well. Without that help, the facilities would have been prohibitively expensive and so might not have been built.

Congratulations to **Dave Bohnhoff**, who received the Arthur J. Maurer Extra Mile Award at the 2011 CALS staff and faculty awards presentation on April 27, 2011.

Congratulations to **Debby Sumwalt** who received a Classified Staff Award at the 2011 CALS staff and faculty awards presentation on April 27, 2011.



Vicki (Cooper) Janisch

AgrAbility Continues to Grow under new leadership

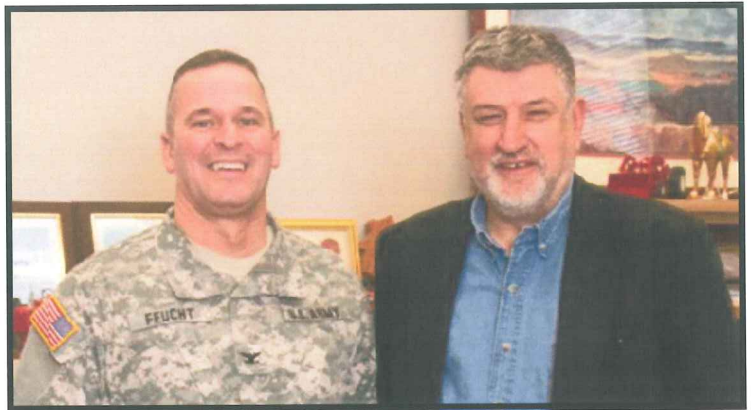
On January 1, 2011 Vicki (Cooper) Janisch became the Outreach Specialist for AgrAbility of Wisconsin. This program, which was started in 1991, helps farm families overcome the effects of disabling conditions.

Since then, AgrAbility has provided assistance for almost 2,000 Wisconsin farmers and their families with disabilities ranging from arthritis to cancer. In the 2010- 2011 budget year AgrAbility of Wisconsin served 429 farmers and farm workers with disabilities and their families. This includes 131 new referrals and 175 continuing clients. AgrAbility provides consultation on equipment and work-site modifications, stress management techniques, community services and health care coordination, farm job restructuring/alternative job development, peer support involvement, farm safety and secondary injury prevention, and identification of funding resources. For example, the Division of Vocational Rehabilitation (DVR) supported the purchase of such assistive technology as powered feed carts, utility vehicles, skid-steer loaders, added steps for tractor, feed bins, and conveyors. AgrAbility of Wisconsin is also dedicated to promoting awareness of disabilities and chronic health conditions in the agricultural community through presentations, workshops and displays. AgrAbility had exhibits at the Wisconsin Occupational Therapist Association conference and Occupational Therapy students from UW Madison made a brochure to spread awareness.

Alumni Update...

BSE Alumnus Colonel Feucht to lead Agribusiness Development in Afghanistan

Colonel Darrell Fuecht and 58 other volunteers that make up the Agribusiness Development Team will leave in December for a 10 month deployment in Kunar, Afghanistan. The team seeks to teach the Afghan people about agriculture through a demonstration farm. The farm will focus on animal husbandry, disease inoculation, horticulture, and irrigation. However, the most important goal of the mission is to establish relationships between the University and the local people.



Colonel Feucht and his former advisor Dick Straub

"It is our intent that the relationship grows and continues even after we leave," said Fuecht. The team is preparing for their mission by attending classes, including one at Old World Wisconsin where they learned about bee keeping and poultry. They will also attend a 40 hour Agriculture Extreme Course at Arlington Agriculture Research Center the last week of July. "The team is working with CALS staff to finalize the curriculum for the extreme course," said Fuecht. Even though it's a few months until they leave, the time is flying by and the team is busy preparing said Fuecht.

"I think my favorite part is the satisfaction that we will have extending a hand, not necessarily only as US soldiers helping people in the country but it's the Badger State as a whole helping." – Colonel Feucht

Colonel Fuecht is from Fall River and attended UW Madison. He has a bachelor's degree from BSE in agriculture, with an emphasis on agriculture mechanization and management.

In Memoriam...

Theodore (Ted) J. Brevik was a faculty member of the UW-Madison Agricultural Engineering Department from 1955 until 1983. In 1955, Ted accepted a position in Wisconsin as an Extension Specialist in Farm Buildings. His activities included working with county agricultural agents in planning many demonstration projects including new and remodeled homes, barns and other farm buildings. He designed a number of county fair pavilions and the hall for the University 4-H Youth Camp at Upham Woods near Wisconsin Dells. Ted was active on the Midwest Plans Service committees and served as the Chair of the Executive Committee. In ASAE, Ted was active on several committees which prepared the national design requirements for farm and rural homes and dairy, swine and beef facilities.

During the last 12 months of his employment on the faculty he worked on a USDA project, 'Special Energy Project' at the USDA Southern Agricultural Energy Center in Tifton, Georgia. He developed numerous Energy Notes describing many alternative sources of energy. He conducted numerous workshops and prepared slides sets related to alternative sources of energy. Ted was on the Agricultural Engineering staff at Michigan State University from 1947 to 1955, doing some research but devoting most of his time to instruction in farm buildings at technical and service course levels. His research focused on the development of designs for tilt-up horizontal silos and on onion storages. Ted completed his BS Architectural Engineering at North Dakota State University in 1947. His undergraduate studies were interrupted when he joined the US Navy, attending the Midshipmen's School at Columbia College. He served as a navigator and torpedo officer on board a light cruiser during World War II. He completed his MS Agricultural Engineering in 1950 from Michigan State University.

Ted passed away on March 3 in Sun City, AZ. He is survived by his wife Dona, son Paul and daughter Debbie. He was born in Williams County, North Dakota in 1922.

Alumni Update...

Travis Braun – a 2008 BSE graduate, is employed as an Engineer at Trek in Waterloo, WI.

Rick Hatlen - a December 1985 BSE graduate, is currently the Technical Sales & Support Manager with Watlow Electric Manufacturing and a member of the Leadership Team at the Richmond, IL location.

Watlow is privately held and is the largest custom designer and manufacturer of industrial electric heaters, sensors, and controllers; with offices and manufacturing facilities around the world. Watlow brings its thermal expertise to numerous applications, including photovoltaic, semiconductor, analytical instrumentation, medical equipment, plastics processing, foodservice equipment, packaging, aerospace and others. Watlow is very committed to becoming a LEAN organization and apply LEAN to everything they do.

Rick recently returned from attending the Diesel Emissions Conference in Beijing, China, and following is the link to the website if you are interested - <http://www.integer-research.com/conferences/dec-asia/>. The conference was very informative and attending this meeting in a region and city where the need to reduce diesel emissions is perhaps clearer than it is in any other place in the world was worthwhile.

Dan Michiels – a December 2008 graduate in Natural Resources and Environmental Engineering, is currently an Environmental Engineer with Resource Engineering Associates, Inc. in Middleton, WI.

Dan was married the summer after he graduated. Since then, Dan and his wife have purchased a house and are raising their 1-year-old daughter. They are also expecting another this year and can't wait to welcome a little boy or girl (they want to keep it a surprise!) into the world.

Christian Truong – a December 2010 BSE graduate, said that he is very grateful for all the success he had through the years. It all started with his first internship as a media intern with WISPIRG as a freshman that gave him the first

taste of responsibility. Edging out upperclassmen for the position felt great but it also exploited one of his greatest weaknesses in communication-writing. This soon followed with job stints as a canvasser, video store clerk, DJ, and then deployment as a medic to Iraq.

Upon coming home, Christian's drive to better his education and career exploded knowing the gift of freedom gives one the choice to achieve goals and fulfill the American Dream. Relentlessly he broadened his education and experiences. He got a job as a fitness instructor, joined the cycling team, and got sponsored by Monsanto to attend the Agriculture Future of America Leaders Conference. Christian grabbed two more internships with CALS and ConAgra, won the inaugural Nelson Institute Community Environmental Scholarship, and got selected to be a student representative for Environmental Studies Certificate.

Christian also was a GUTS tutor and a member of Muir Wood Mentors helping children learn about the environment. Last summer, he received two job offers and selected to work for Battelle Memorial Institute, the research non-profit. It sounds like a lot, but he never felt obligated to do anything. Christian just explored his own personal interests and the doors started opening one after another seemingly without effort. The opportunities presented themselves in ways unimaginable. Christian doesn't necessarily seek to Challenge himself, but life always manages to push back, and he'd always push harder in response. Frankly, Christian didn't think any of his success would have ever happened without the support of the staff, faculty and students at BSE, CALS and Engineering.

"I've grown to love the University of Wisconsin-Madison and being a Badger," Christian said. "And I'm sure I'll be back for seconds someday. On Wisconsin!"

Naomi Uhlenhake - Congratulations to Naomi for being selected as one of ASABE's New Faces of Engineering for 2011. Naomi, a 2006 BSE graduate, was selected by the Wisconsin Section to

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Alumni Update...

Continued from page 9

ASABE's New Faces of Engineering for 2011. It is through commitment and work that such accomplishments are achieved.

With her background in biological systems engineering, Naomi provides critical technical expertise to agricultural producers, helping them maintain their high standards of environmental stewardship. With the distinction of being the first agricultural engineer employed by Frontier FS Cooperative, a division of Fortune 500 Company Growmark, Naomi works closely with agronomists and farmers around the state of Wisconsin devising solutions for waste and stormwater management issues. In her position, Naomi strives to protect the environment by providing expertise to farmers in construction and expansion permitting requirements and acting as a liaison between her clients and government agencies such as the Department of Natural Resources, the Natural Resource Conservation Service, and county and township departments and committees. Naomi develops designs for stormwater management, manure management, and leachate runoff control systems and the engineering portions of comprehensive nutrient management plans (CNMPs). Over the last five years, at Frontier FS and her previous employer, Resource Engineering Associates, Inc., Naomi has completed more 130 CNMPs, assisted with more than 30 constructions, stormwater, siting and National Pollutant Discharge Elimination System. Additionally, she has managed multiple farm-expansion projects.



Naomi Uhlenhake, BS, PE
Frontier FS Cooperative
Marshall, Wisconsin

Naomi holds a bachelor of science degree in Biological Systems Engineering from the University of Wisconsin-Madison. She joined ASABE in 2001. The New Faces of Engineering strives to promote the accomplishments of young engineers by highlighting their engineering contributions and the resulting impact on society. Each year the National Engineers Week Foundation asks its members to nominate colleagues 30 years old and younger for consideration as one of the New Faces of Engineering.

Thank You

Contributors to BSE from
December 2010 - May 2011:

Justin C Banach
Ralph Baumheckel – (Proceeds
from sale of 14 of Ham Bruhn's
books)
David A Broten
Jamie P Coyne
John Deere Foundation – (2
donations & 3 matches)
Danielle M Dewitt
James P Doering
Donald Erbach
Joshua J Gable
Brian & Jennifer Hitt
Richard & Barbara Holloway
Brian & Mary Holmes
Andrew J Holstein
Brian & Jill Huenink
Byron G Jevne
Robert K Jorstad
David & Sharon Kammel
Timothy J Koch
Pat S Litza
Alberto R Negri
John W O Connor
Edward J Odgers
John C Panuska
Daniel L Pederson
Ross W Peebles
Ronald E Pitt
Robert J Pofahl
Douglas & Mary
Kay Reinemann
Stephen A Rohleder
Scott A Sanford
David K Schirer
Stuart E Schlough
Ronald T Schuler
Rakesh K Singh
Kenneth A Steele
Richard J Straub
Patrick W Walsh
Gregory B Weber
Shane D Williams
Wisconsin Farm Technology
Days Inc
Ryan M Wojcik

Funding Update...

Please give some consideration in contributing to one of the Biological Systems Engineering Department Funds listed below:

Biological Systems Engineering Facilities Fund	Martin and Kathleen Burkhardt Fund
Biological Systems Engineering General Fund	(BSE Employment Assistance)
Biological Systems Engineering Student Activities Fund	Milking Research and Instruction Laboratory Fund
Dick and Grace Stith Scholarship	Orrin Berge Scholarship
Farm Machinery Research Fund	Rural Energy Issues Fund
Ham Bruhn BSE Scholarship	Robert and Willa Meier Scholarship
Ham and Janet Bruhn Distinguished Graduate Fellowship	Schuler Family Ag Safety and Health Fund
Gail and Janice Janssen BSE Scholarship	Sixties Decade Computer Lab Equipment Fund
Lynndon and Norma Brooks Scholarship	White Clover Dairy Research Fund
	Wisconsin BSE Scholarship

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, facilities improvement, endowed professorship and graduate fellowships, and carry on our tradition as leaders and innovators in the biological systems engineering field.

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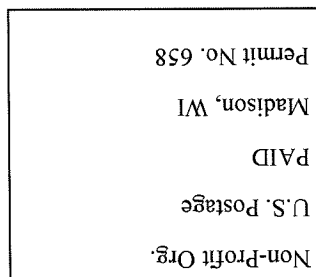
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