

Purdue University Agricultural & Biological ENGINEERING

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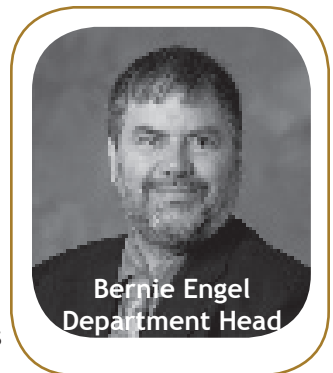
ABE News

ABE Sympathy

Professor Miles Retirement

From Department Head - Bernie Engel Alumni and Friends of ABE

Welcome to the ABE Newsletter. We have recently competed an outstanding academic year with much to celebrate. The job market remains strong for our graduates who have excellent career opportunities. Our students continue to excel in the classroom and outside the classroom. Each year we recognize outstanding students (freshman through senior and graduate students). You can read more about these very accomplished students on pages 10,11 and 13. Many of our current students are pursuing internships this summer with industry and government agencies, while others are learning how to conduct research with ABE faculty as part of the Summer Undergraduate Research Fellowship program.



Bernie Engel
Department Head

We recognized the achievements of three outstanding alumni late in the spring semester. Jeff Arnold received the Distinguished Agricultural Alumni award for his contributions to the hydrologic/water quality modeling portion of our profession. Charles (Ken) Spillman and Michael Veenhuizen received Outstanding ABE Alumni awards. Hopefully some of our May 2008 graduates will be joining us in the future for these recognitions!

Our faculty and staff have received numerous recognitions this past year (see pages 8 and 9). Don Jones was recognized as a Fellow of ASABE and Martin Okos was recognized as a Fellow of AIChE. Congratulations Don and Martin on these recognitions of the contributions you have made to our profession.

It is with mixed feelings that congratulations are extended to Buddy Miles and Dirk Maier. Buddy has retired after 25 years of service to our program having impacted hundreds of students. Dirk has moved into a leadership position at Kansas State University. We will certainly miss the many contributions of Buddy and Dirk to our discovery, learning and engagement programs.

Our profession and Purdue ABE lost two outstanding individuals this past year. Al Dale and Ed Monke passed away this past academic year. Al and Ed made many, many contributions to our profession and Purdue ABE during their distinguished careers. We certainly miss Al and Ed.

As always, stop by campus and ABE if your travels bring you this direction. Go Boilers!

Our Mission

"To prepare students, citizens, and industry for the future through innovative education and extension/ outreach programs, and the discovery of knowledge."

Alumni News



Dr. Jeffrey Arnold Named 2008 Distinguished Agricultural Alumni in Purdue University's Department Of Agricultural & Biological Engineering

DR. JEFFREY ARNOLD (ABE PHD. '92) received the Distinguished Agricultural Alumni honor and title in March on the Purdue campus. This award is given to select individuals in recognition of outstanding accomplishments and significant contributions to their profession and to society. One hundred fifty-two alumni from the College of Agriculture have received this distinction since the award program started in 1992.

As a Purdue doctoral student, Dr. Arnold worked to develop the Soil and Water Assessment Tool (SWAT), this public domain software is a river basin scale model used to quantify the impact of land management practices in complex watersheds. Dr. Arnold has published over 235 articles and chapters and has reported at nearly 50 national and international meetings.

In the United States, his work plays a key role in USDA conservation policy and the Environmental Protection Agency's environmental policy. His international reach is equally impressive with many scientists traveling from various countries to have the opportunity to work with him.

Dr. Arnold is currently the laboratory director of the Grassland, Soil and Water Research Laboratory of the U.S. Department of Agriculture.



Drs. Engel & Arnold at ABE Award Ceremony



The Jeffrey Arnold Family



Alumni & Service Awards

2008 ABE Outstanding Alumni

The ABE Outstanding Alumni and Service Awards recognize and honor alumni and friends of the department who have achieved significant professional, community, educational, and social accomplishments in areas involving agriculture, engineering and technology.



Dr.. Charles Spillman

DR. CHARLES SPILLMAN received a PhD. in Agricultural Engineering from Purdue University in 1969. Other degrees he has earned were an AS from Vincennes University after service in the US Marine Corps, and a BS and MS degree from the University of Illinois. Dr. Spillman now retired, was a teacher and researcher for 34 years at Kansas State University in the Agricultural Engineering Department and served five years as department head.

Dr. Spillman feels that the education he received at Purdue University provided him a sound technical foundation for teaching and research of building and environmental systems for animals and products. Dr. Spillman stated that the relationships with fellow students and faculty that developed during his time at Purdue were very helpful during his professional career, and these relationships were valuable when setting up a joint solar heating demonstration project for animal shelters between Kansas State University and Purdue University.

The processing courses he took while at Purdue were useful in research on wheat hardness testing and processing of guar. The research with guar processing led to an interest in its use for treating oil and gas wells. The knowledge gained during his research and his continued interest in the use of guar for treating oil and gas wells resulted in investing in companies that produce natural gas. These investments have been successful and have allowed Dr. Spillman and his wife Carolyn to establish a scholarship for the ABE department.



Dr. Michael Veenhuizen

DR. MICHAEL VEENHUIZEN received a B.S. and M.S. in Agricultural Engineering from Purdue University and a PhD. in Agricultural Engineering from Iowa State University. His focus areas of study and research were in structures and environment, wastewater treatment, and indoor and outdoor quality.

Dr. Veenhuizen is an engineering professional who provides engineering and environmental consulting services with Livestock Engineering Solutions, Inc., based in Greenwood, Indiana. For the past fourteen years, Dr. Veenhuizen has worked with livestock producers and allied industry throughout the State of Indiana and the United States to accomplish Federal, State and local permitting and environmental stewardship and operating goals. His experiences include daily interaction with producers, the public and state and local regulatory agencies focused on practical solutions to effective and environmentally sound livestock production.

Dr. Veenhuizen has received three awards for meritorious service to the agricultural industry including the Soybean Alliance 2007 Beyond the Fence Award - Industry Partner, the Indiana Pork Producers 2004 Meritorious Industry Service Award, and the 1999 Maxine Nash Memorial Pork Industry Promotion, Education, and Support Award. He has also been recognized with 5 Blue Ribbon Awards from the American Society of Agricultural & Biological Engineers for publications.

Alumni & Service Awards

2008 ABE Service Award Honorees

The ABE Outstanding Alumni and Service Awards recognize and honor alumni and friends of the department who have achieved significant professional, community, educational, and social accomplishments in areas involving agriculture, engineering and technology.

ROB SHELLHAMER is a Precision Agricultural Specialist with Raven Industries, Inc. Rob joined the Raven team in July 2007 and his current position involves training distributors and operators to use and service Raven equipment in Indiana, Illinois, Wisconsin, and Kentucky, he also has the pleasure of promoting precision farming through the use of Raven products at trade shows throughout the year.

RAVEN INDUSTRIES INC. was founded in Sioux Falls, South Dakota in 1956, as a manufacturer of high-altitude research balloons for NASA and the American space program. From a single product line, they have evolved into a successful, diversified manufacturer publicly traded on NASDAQ (RAVEN).



Rob Shellhamer & Department Head Dr. Engel

Raven Industries' Flow Controls Division has provided precision solutions to the agriculture market for more than 25 years. From flow controls to high accuracy GPS and steering systems, Raven leads the way in integrating technology for today's agricultural market. Raven Industries produces thousands of sprayer, fertilizer spreader, and anhydrous ammonia applicator controllers every year which are sold through its distributors in the aftermarket and OEM markets.

BOTH RAVEN INDUSTRIES AND FARM WORKS SOFTWARE HAVE BEEN VERY ACTIVE AND SUPPORTIVE OF THE AGRICULTURAL AND BIOLOGICAL ENGINEERING DEPARTMENT AND OUR STUDENTS - WE APPRECIATE THEIR SUPPORT!

BRIAN STARK started his career with Farm Works Software in 1996 as a Sales and Support Specialist. After spending the first eight years in sales, Brian was promoted to domestic sales manager in 2004. As the grower base continued to exceed expectations, a decision was made in 2007 to use Brian's experience to market their products globally.



Brian Stark



FARM WORKS SOFTWARE

was founded in 1992 by Norman Teegardin. The objective of Farm Works Software is to create a comprehensive farm management system while keeping it simple.

Farm Works Software is headquartered in Hamilton, Indiana with subsidiary offices in the United Kingdom and South Africa. The company supplies farm management software in 20 languages and has a customer base of over 30,000 users worldwide. Farm Works Software provides fully supported, easy-to-use yet technically advanced and innovative solutions for the office and field.

ABE Scholarships, Fellowships and Awards

AGRICULTURAL & BIOLOGICAL ENGINEERING SCHOLARSHIP WINNERS

- Craig Barcus, Allison Calahan, Danielle Carpenter, Hector Chang, Krista Eakins, Emily Fortener, Jaime Ho, Mitchell Lovell, Haroon Mohammad, Corey Piper, Alice Robinson, Erin Rosswurm, Matthew Wolf and Jacob Wooddell.



Allison Calahan

NEW CENTURY SCHOLARS SCHOLARSHIP (FUNDED BY JOHN B. GREINER)

- Alexander Allaby, Eduardo Anzueto, Rahul Bhatani, Stephen Bogdanowicz, Daniel Butler, Shane Clingenpeel, Alicia Connaughton, Austin Couden, Jess Daily, Randy Eckel, Kathleen Gilbert, Michael Gregg, Wayne Jeffers, Courtney McWaine, Jacob Ohlemiller, Michael Osowski, Laura Page, Laura Podgorski, Karen Rea, Eric Steidinger, Michael Stull, Chelsie Werling, Austin White and Grant White.

G.W. KRUTZ SCHOLARSHIP

- John Andruch.

LARRY & LOLA HUGGINS SCHOLARSHIP

- Nancy Hammel.

JOHN DEERE SCHOLARSHIP

- Joshua Heber and Isaac Serbin.

BRIDGESTONE/FIRESTONE SCHOLARSHIP

- Bruce Cooley.

MID-AMERICA EQUIPMENT RETAILS ASSOCIATION SCHOLARSHIP

- Kevin Cool and Dustin Lindahl.

PARKER HANNIFIN SCHOLARSHIP

- Aaron Bobeck, Robert Caylor, Derek Hostetler, John Michel, Lucas Powlen, Kristi Sheldon and Ryan Smith.

REYNOLDS FIELD OF DREAMS SCHOLARSHIP

- Nicholas Avon.

ADM SCHOLARSHIPS

- Chad Carey, Craig Clemson, Kevin Cool, Austin Henderson, Zach Kemper, William McQuinn, Eric O'Farrell, Benjamin Overmyer, Lucas Powlen, Trevor Reese, Scott Riggins, Adam Shafer, Kristi Sheldon, Lucas Shideler and Charles Young.



Scott Riggins

SPILLMAN ABE SCHOLARSHIP

- Tim Meier.

MATTHEW & LESA REYNOLDS SCHOLARSHIP

- Joshua Gudeman.

GEAPS SCHOLARSHIP

- Elizabeth Hawkins and Eric O'Farrell.

CLARENCE B. RICHEY SCHOLARSHIP

- Philip Burbrink.

MAGOON AWARD HONOREE

- Clifford Racz.

ABE GRADUATE STUDENT EXCELLENCE IN TEACHING NOMINEE

- Brian Hoover.

BILSLAND DISSERTATION FELLOWSHIP

- Lan Sun.

PURDUE DOCTORAL FELLOWSHIPS

- Lindsay Birt and Cedric Ogden.

ROSS FELLOWSHIPS

- Eric Hodgman, Louis Nelson and Chris Williamson.

ANDREWS FELLOWSHIP

- Mark Batdorff.

NSF FELLOWSHIP

- Elizabeth Casey and J.D. McClurkin.

CATERPILLAR SCHOLARSHIPS

- Kevin Cool, Benjamin Dietrich, Michael Genovese and Michael McCoy.

BART & KAREN NELSON SCHOLARSHIP

- Anne Dare, Katie Jones and Jeffrey Wojcicki.



Anne Dare

ABE Student News

ABE DECEMBER GRADUATES

Congrats to Jennifer Allen, Brandon Bechtel, Adam Conklin, Aaron Dillie, Kenneth Gibbs, Robby Hartono, Leonard Kim, Greg Long, Andrew McDaniel, Jonathan Owens, Emily Raderer, Amanda Shook, Clinton Stocklin, Jonathan Thorpe, Jessica Widjaja, Di Wu and Andrew Horney our 2007 ABE December Graduates.



Jennifer Allen & Emily Raderer

Jennifer Allen was selected as a Student Responder for the December 2007 graduation.



Jennifer Allen, Brandon Bechtel & Emily Raderer

JOHN ANDRUCH received a FPEF scholarship for the 2007-2008 academic year from the Fluid Power Educational Foundation.



Professor Krutz and John Andruch

JOHN ANDRUCH AND CODY MCKINLEY

recently attended IFPE 2008, the International Exposition for Power Transmission, in Las Vegas and presented two papers.

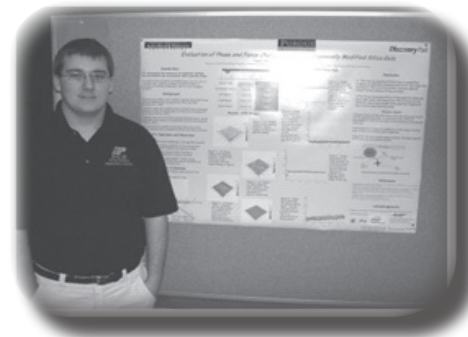
Andruch's paper was the result of a summer undergraduate research project advised by John Lumkes. McKinley's paper resulted from an undergraduate independent study class also advised by John Lumkes.

CRAIG BARCUS AND

ROBERT CHAN participated in the 2008 Undergraduate Research and Poster Symposium.

Craig's poster's title was "Preliminary Characterization of Peptide Enhanced Ormosils". Dr. Jenna Rickus served as his faculty advisor.

Robert Chan's poster's title was "The Effect of Particle Properties on the Springback of Bulk Particulates". Dr. Klein Ileleji served as his faculty advisor. Cedric Ogden was his Graduate Advisor.



Craig Barcus at the Poster Symposium

CRAIG BARCUS an undergraduate student in the BFPE program, was elected the Student Councilor for the Institute of Biological Engineering (IBE). This position is one of two student positions on the national council for IBE.

DAVID PYLE & JENNIFER ALLEN

Congratulations to both ABE students who were awarded a CAR Award (Community Activity Recognition Award). This award is given to Purdue students who go above and beyond the average call for local community activities while maintaining a high level of academic achievement.



David Pyle & Jennifer Allen
CAR Award Winners

MATT WOLF a biological and food process engineering major from Evansville, Indiana won first place with his team, in the recent Sara Lee Innovation Award competition. The team's winning entry was Tuscan Essentials Biscotti which provides caramel or raspberry flavoring when stirred into hot drinks and can then be eaten as a snack.

ERIN ROSSWURM a biological and food process engineering major from Columbus, Indiana and her team, placed second in the Sara Lee Innovation Award competition. This team's creation was an on-the-go snack that featured bagel sticks packaged with a yogurt dipping sauce.

Both teams have been asked to present their products to the company later in the year, and both products could potentially be commercialized.

ABE Student News

ABE May Graduates

ABE GRADUATES

Congratulations to James Bartlett, Travis Carr, Aaron Dillie, Joel Flechter, Bradley George, Joseph Neukam, Jonathan Newell, David Yung, Rebecca Albrecht, Ben Schlipf, John Schildmier, John Schumm, Wyatt Roth, Jessica Sloan, Ruth Pinto, Levi Shelton, Joe Dynes, David Pyle, Keith Mears, Erik Wulf, Peter Schmitt, David Conway, Dan Hobbs, Alex Sei, Kathryn Hoff, Kristin Gill and Courtney Allen.

ASM GRADUATES

Congratulations to Matthew Gillespie, Jeremy Holscher, Dwight Ludwig, Wade Miller, Kyle Musselman, Brock Schwenk, William Huffmeyer, Brian Scheidler, Daniel Stahly, Jared Haughee, Evan Steele, Brad Morehouse, Seth Lawrence, Christopher Allen, Jared Brown, Tyler Stieglitz and Ryan Zook.

ABE Senior Projects & ASM Capstone Projects

Agricultural & Biological Engineering

1st Place - Free Wheel Valve for Hi-Speed Mobile Application - *Keith Mears*

2nd Place (tie) - Basic Utility Vehicle Design Competition - *Joel Flechter, David Pyle, Pete Schmitt and Eric Wolf*

2nd Place (tie) - Quarter-Scale Tractor Design - *John Andruch, James Bartlett, Joseph Dynes, Casey Fillingier, Brad George and Ben Schlipf*

9 Shank Subsoiler Design - *Jonathan Newell*

Motorsports Measurements - *Dan Hobbs and Kugann Ramachandran*

Spring Development, Water Treatment & Distribution System: Al Nwai'mah, Palestine - *Travis Carr, Anne Dare, Samantha Hess, Joseph Neukam and Levi Shelton*

Tandem Bicycle With Planetary

Transmission - *Andy Berg, Tyler Stieglitz and John Schildmier.*

West Lafayette Extended Detention Wetland Design - *Michael Kalisz and Courtney Allen*



Biological and Food Process Engineering

1st Place - Economic Analysis and Optimization of Sausage Production - *Rebecca Albrecht, David Conway and John Schumm*

2nd Place - Fluidized Bed Processing: Pharmaceutical Bead Coating - *Kathryn Hoff, Wyatt Roth and Jessica Sloan*

Design of Par-Baked Bread Facility - *Priscilla Couto, Benjamin Hall, Ruth Pinto and David Yung*

Soybean Oil Processing - *David Gill, Robert Gordon, Alex Sei and Alice Robinson*



Agricultural Systems Management

1st Place - Improvement of the Auto-Dibbler - *Jared Haughee, Bill Huffmeyer, Jared Brown, Daniel Stahly and Even Schlegelmilch*

2nd Place - Beck's Stationary Baler Group - *Brad Morehouse, Brock Schwenk and Seth Lawrence*

ADM Working Grain Model - *Wade Miller, Chris Allen, Bill McQuinn, Jeremy Holscher, Matt Gillespie and Dwight Ludwig*

Singer Farms Case Study on Plum Pox Potyvirus - *David Bittner, Brian Scheidler and Evan Steele*



CHECK OUT THE VIDEOS OF THESE PROJECTS ON OUR WEB PAGE AT: [HTTP://WWW.PURDUE.EDU/ABE](http://www.purdue.edu/abe)



ABE Faculty and Staff News



DON JONES named ASABE Fellow.

MARTIN OKOS has been named an American Institute of Chemical Engineers (AIChE) Fellow.



KEITH CHERKAUER presented his seminar “The Impact of Changing Climate and Precipitation in the Great Lakes Basin” to the Purdue Calumet campus in January.

JOSEPH IRUDAYARAJ most assessed article in Analytical Chemistry in 2007: “Multiplex Biosensor Using Gold Nanorods”, published in Analytical Chemistry and is being featured on the ACS Publications web site - <http://pubs.acs.org>.

DENNIS BUCKMASTER named ABE Outstanding Department Teacher in Agriculture.

JOHN LUMKES named ABE Outstanding Department Teacher in Engineering.

MARTIN OKOS named ABE Outstanding Department Counselor.

BILL FIELD named ABE Agricultural Outstanding Graduate Educator.

MICKY CREECH awarded the ABE Outstanding Agricultural Outstanding Service to Students Award.

CHANG LU Assistant professor of Agricultural and Biological Engineering, Biomedical Engineering (by courtesy), and Chemical Engineering (by courtesy), was selected for the NSF CAREER Award for his proposal titled “Transfected cell microarray technology based on microfluidic electroporation”.



Assistant Professor
Chang Lu

The Faculty Early Career Development (CAREER) Program is a Foundation-wide activity that offers the National Science Foundation’s most prestigious awards in support of the early career-development activities of those teacher-scholars who most effectively integrate research and education within the context of the mission of their organization.



INDRAJEET CHAUBEY

received the ASABE New Holland Young Researcher Award.



JENNA RICKUS received the American Society for Engineering Education Biomedical Engineering Teaching Award.

DIRK MAIER received the Purdue University Cooperative Extension Specialist Association Senior Award.

DON JONES given the Agricultural Certificate of Distinction Award.

BERNIE TAO named Teaching Academy Fellow.

BREAKING NEW GROUND OUTREACH PROGRAM

participated in the 2008 Fort Wayne Farm Show as an exhibitor. The display consisted of a John Deere tractor with a Life Essentials lift, the BNG tabletop display and resources, a video explaining BNG services, and a display from BNG partner; The League for the Blind and Disabled, in Fort Wayne. The display was staffed by Gail Deboy and Steve Swain from BNG, Nancy Gasparini from The League, Ned Stoller from Michigan AgrAbility, and BNG consultants.

RABI MOHTAR accepted the position of Director of the Global Engineering Programs for the College of Engineering.

KEITH CHERKAUER participated on March 18th in a panel discussion on climate change for Hammond area high school students as part of the Rotary Club’s World Affairs Conference on Climate Change.

ABE Faculty and Staff News

PROFESSOR RABI MOHTAR recently received the Purdue Agricultural Research Award. This award recognizes research excellence by a faculty member in the Purdue University College of Agriculture with less than 15 years experience beyond the Ph.D.

Purdue Agricultural Research Programs bestows this award annually to recognize a scientist who has demonstrated a high level of excellence in the application of scientific principles to the solution of important research problems and who has, through his or her research, made significant contributions to agriculture, natural resources, and quality of life of Indiana citizens.

Rabi H. Mohtar is a Professor in the Agricultural and Biological Engineering Department at Purdue University. Dr. Mohtar received his B.S. and M.S. from American University in Beirut. He earned an M.S. in Civil and Environmental Engineering and a Ph.D. in Agricultural Technology and Systems Management from Michigan State University.

Dr. Mohtar joined the ABE department in September 1996. His research and teaching interests are in soil and water resources engineering and the application of numerical methods to agricultural and biological engineering problems.



Provost Woodson & Professor Mohtar

CHAD MARTIN is the newly hired Renewable Energy Extension Specialist within the ABE Department. He will be working closely with ABE faculty to develop a program to provide education and outreach targeted to producers and small businesses as they adopt renewable energy and energy efficiency applications.

Chad comes to Purdue from the Indiana Cooperative Development Center (ICDC) based in Indianapolis where he was the business development specialist for the statewide network of partner organizations including state and federal agencies.

Chad is a graduate of Purdue with an M.S. in Agricultural and Extension Education, and received his B.S. degree from Western Illinois University (WIU). A native of Indiana, he has experience working with the development of renewable energy initiatives in rural areas involving value-added agriculture and wind energy.

DIRK MAIER

accepted a new position at Kansas State University as head of the Grain Science and Industry Department.



Dirk has contributed greatly to programs in the ABE department and beyond while at Purdue, and he will be missed. The ABE department wishes Dirk the Best of Luck.



GARY KRUTZ is leading a team that has developed a tire system that senses failures in real time.

The “Smart Tire” should make road travel safer by sensing damage and alerting the onboard computers.

This technology can also be used to detect impending defects before a tire is mass produced, offering companies a cost savings and less scrap.

This technology is being expanded to include all rubber tires, construction equipment, lawn and garden, mining vehicles and airplanes.



ABE Outstanding Students



**SENIOR, JONATHAN NEWELL -
AGRICULTURAL AND NATURAL RESOURCES ENGINEERING**

One of the many assets that Jon has is his willingness to engage and learn about others and help where he can. Throughout his course involvement, Jon has been extremely bright, original, hard working, enthusiastic, and a very responsible individual. Jon has excelled in both his personal and professional activities with excellence. He is eager to learn, listen and gets along very well with his peers. His inquisitive, persistence and responsible nature make him an outstanding ABE Senior.

**JUNIOR, CRAIG BARCUS -
BIOLOGICAL AND FOOD PROCESS ENGINEERING**

Craig is very hardworking and diligent in his class work as well as demonstrating excellent comprehension of the topical material. He has demonstrated not only excellent scholastic abilities, but also shown his critical thinking skills through the questions he asks both in class and outside. He is a top-notch student and has tremendous motivation for research.

Craig has also been active in summer research, having participated in the SURF program last year. Craig is on the Dean's List for scholastic achievement, as well as receiving several scholarships and academic honors. Craig will be continuing on to receive a Masters degree in the Agricultural and Biological Engineering department after earning his BS degree.



**SOPHOMORE, JANIE STINE -
BIOLOGICAL AND FOOD PROCESS ENGINEERING**



Janie is intelligent, mature, good natured, hard working, talented, and has a sincere love of learning. She has an amazing GPA of 4.0, and is involved in many additional clubs and activities.

Janie is a member of the Biological Engineering in Genetics Club, which recently competed in the international Genetically Engineered Machine Competition (iGEM) at MIT. The students develop a research project in the area of synthetic biology. Janie joined the team during her freshman year, and has helped develop the idea of engineering bacteria to play "rock paper scissors". Although just a freshman and not a molecular biology major, Janie assumed a major role contributing to the construction of the DNA parts. Janie and her team received a bronze medal status at the competition.

ABE Outstanding Students

FRESHMAN, COURTNEY MCWAIN - AGRICULTURAL AND NATURAL RESOURCES ENGINEERING

Courtney is quite accomplished for a freshman. She has an excellent GPA of 4.0 after her first semester in First Year Engineering. In addition, she has engaged in many campus-based activities including several in leadership roles, as well as being active with Habitat for Humanity and the local Humane Society.

Based on her joyful good nature, sincere motivation for learning, aptitude for leadership, demonstrated scholarship, and current college career trajectory, the ABE department expects to see many great accomplishments from Courtney in the future.



SENIOR KEITH MEARS - PURDUE STUDENT ENGINEERING FOUNDATION OUTSTANDING SENIOR

Keith is an outstanding student and has been involved in many student activities while maintaining an excellent GPA. Within the ABE department Keith has helped with many departmental recruiting activities, as well as many off-campus events.

Keith has also been a significant contributor to the ASABE Quarter Scale Tractor Student Design Team, which placed first in performance and second overall in the annual competition in 2007.

Keith served as the president of Alpha Epsilon, our student honor society and was president of our student chapter of ASABE during his junior year.



ABE Graduate Student News

VIMAL MISHRA, a PhD. student working with Dr. Keith Cherkauer, presented a talk on the topic “Impacts of Climate Variability and Change on Inland Lakes in Michigan” at the Climate Variability and Change session of the 88th Annual Meeting of the American Society of Meteorology (AMS).

LINDSAY BIRT, a Ph.D. student in Agricultural and Biological Engineering, had the extraordinary opportunity to participate in a 2 week bioremediation project in Pantnagar, India.

Lindsay was a part of a 15 member team consisting of six graduate students, several undergraduate students, and faculty (Dr. Rabi Mohtar from Purdue University, Dr. Prasanta Kalita and Dr. Richard Cooke from University of Illinois-Urbana Champaign).



Together, they worked closely with the students and professors at the GB Pant University of Agriculture and Technology (GBPUAT) to design, install, and evaluate the efficiency of the bioremediation treatment system in reducing chemical contaminants from agriculture watersheds without reducing agriculture production. This project is part of the US-Indo Agricultural Knowledge Initiative grant that Purdue is working on with five other US universities and 6 Indian Institutions.

MARK THOMAS was recently named the 2008 CETA Outstanding Graduate Teaching Assistant.



This award honors Graduate Student Teaching Assistants from across campus for their dedication to Purdue undergraduate students and their exceptional teaching contributions.

MAJDI ABOU NAJM received a \$1,000 Travel Award Grant to present an paper in the First International Hydropedology Conference at Penn State to be held from July 28th through July 31st. This is a very important conference in hydropedology, and is attended by the elite scientists in the various fields of geosciences. The Title of the presentation is: “Towards a better understanding of the cracking behavior in soils”.

TUSHAR SINHA AND KEITH CHERKAUER

presented “Historic climate impacts on seasonal soil frost in the Midwestern U.S.” in the 88th Annual Meeting of American Meteorological Society (AMS).

Some of those results have been picked up by Earth Gauge, a program of the National Environmental Education Foundation, Washington, D.C. and have been included in the March 19, 2008 edition of their weekly newsletter. This newsletter provides interesting environmental facts for use in meteorological broadcasts and other educational mediums.

TIMU GALLIEN, a M.S. student in Agricultural & Biological Engineering, received a FPEF scholarship for the 2007-2008 academic year from the Fluid Power Educational Foundation.



Professor Gary Krutz & Timu Gallien

LINDSEY BIRT received the National Society of Black Engineers 2007-2008 National Alumni Leadership Award. The National Society of Black Engineers is a student-led organization with over 28,000 members internationally.

This year, Lindsay led the 60 member Environmental Engineering Special Interest Group (SIG) within NSBE. The group is a technical committee of NSBE that promotes community, technical, and educational projects for professional and graduate members.



The Environmental SIG also received the 2007-2008 National Community Service Award for their commitment to the Habitat Humanity Re-build Project in New Orleans, designing a rain garden at a high school in Houston, presenting six technical workshops, and providing a watershed management technical tour in Orlando, Florida.

ABE Outstanding Graduate Students



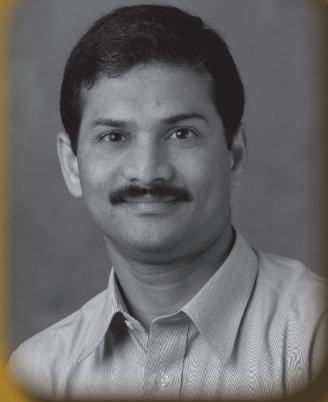
Dr. Bernie Engel and
Dazhi Mao

PURDUE STUDENT ENGINEERING FOUNDATION OUTSTANDING GRADUATE STUDENT - DAZHI MAO

Dazhi Mao has been active within the ABE department serving as the graduate student representative on the departmental facilities committee as well as mentoring new ABE graduate students and assisting them in developing technical skills in research.

Dazhi has presented his research at conferences 10 times, with multiple presentations at both the American Society of Agricultural and Biological Engineers' Annual International Meeting and the American Geophysical Union's Annual Fall Meeting.

Dazhi always displays a positive attitude towards his research and his colleagues, and is never one to shy away from a request for help.



ABE OUTSTANDING PH.D. GRADUATE STUDENT - SRINIVASULU ALE

As a PhD student in ABE, Srinivasulu is currently working on assessing the impact of drainage water management on nitrate load from subsurface drainage (popularly known as 'tile drainage') systems at field and watershed scales. His research combines field observations of watershed processes with hydrologic modeling.

The strategy that he has suggested for operation of drainage water management systems is very useful for the Midwest and other areas where water table management is being practiced.

ABE OUTSTANDING M.S. GRADUATE STUDENT - AMY PENNER

Amy Penner is a MS Student in ABE with a specialization in Biological and Food Processing Engineering. She will graduate from Purdue in December 2008.

Her MS project is two-fold with a focus in expansion/bubble formation in a wheat dough system along with extrusion of wheat, rice, soybeans, and peanuts in a small scale system to be used by NASA for future Mars missions.

Amy is originally from Wabash, Indiana, but she is looking forward to broadening her horizons with her upcoming move to Chicago, Illinois. She has accepted a processing research position at Kraft Foods Inc.



ABE News

Alumni Update

DAVID DOSTER (ABE BS '79)

is working for MW Universal Inc. Which is a privately held corporation specializing in metals manufacturing and assembly. The company owns and operates 11 facilities for metals forgings, castings, stampings and assemblies throughout the United States.

ROBERT JASON BROWN (BS ABE '01, MS ABE '02)

was recently promoted to Operations Leader in Diabetes Care Filling with Indianapolis Parenteral Operations (Eli Lilly & Company).

Jason was previously a Process Automation Engineer in Indianapolis Parenteral Operations.

DON SHOEMAKER (BS AG MECH '03)

recently won a new Dodge truck at the annual meeting of the American Farm Bureau Federation.

Don is an Indiana Farm Bureau member and he won the Young Farmer and Rancher Discussion Competition.

Don had to compete in four rounds, against participants from all over the United States.

The contest involved the discussion of issues such as water rights and the public's perception of farmers. Congratulations Don!

ALPHA EPSILON held their annual Adopt-A-Road highway cleanup in March. The group picked up trash on a two mile stretch of South River Road. The Alpha Epsilon Club would like to thank all the club members who helped serve the community!



Alpha Epsilon Group

BASIC UTILITY VEHICLE

congratulations to the Purdue team which designed an innovative drive line and front suspension on their BUVE entry and successfully finished every event, and placed 2nd overall.



Team members are: David Pyle, Eric Wulf, Peter Schmitt and Joel Flechter.

Check out the Purdue BUVE in action on YouTube - <http://www.youtube.com/watch?v=Od0v-dOc5YY>.

BOILERSPHERE Alumni, students, supporters, and faculty and staff have a new way to connect, reconnect and network - Boilersphere a web-based networking site exclusive to Purdue people launched January 28th - check it out at <http://www.purdue.edu/boilersphere>.



www.purdue.edu/boilersphere

FOR THE LATEST ABE EVENTS, NEWS & JOB OPPORTUNITIES BE SURE TO VISIT OUR WEB PAGE AT: [HTTP://WWW.PURDUE.EDU/ABE](http://www.purdue.edu/abe)

GIRL TO ENGINEERING

the ABE department had 8 seniors in high school visit as part of the "Introduce a Girl to Engineering" program.



Dr. Rabi Mohtar, Emily Raderer, Emily Fortener and Rebecca Albrecht helped with the day's events.

The girls had a great time with a computer simulation game "Carmen Lake" where they manage a lake taking finances, environment, livestock, and people into account.

ABE Sympathy

The ABE Department Wishes to Extend Sincere Sympathy to the Families & Friends of Alvin C. Dale and Edwin J. Monke

ALVIN CECIL DALE, PH.D. Professor Emeritus of Agricultural and Biological Engineering, having served Purdue University for 40 years, died November 5, 2007, at the age of 88. He was born in Goodlettsville, Tennessee, son of the late Andrew Cecil Dale and Mattie Collins Dale. He received a bachelor's degree in agricultural engineering from University of Tennessee in 1941 and a Master of Science degree in Agricultural Engineering at Iowa State in 1943. He joined the Army Corp of Engineers and the Army Air Force from 1943 to 1946, attaining the rank of Captain. After the service, he returned to Iowa State, receiving his doctorate in 1950.

Dr. Dale joined the Purdue Department of Agricultural Engineering (currently the Dept. of Agricultural and Biological Engineering) in the fall of 1949 to teach courses in farm structures design. In 1952, with Al serving as Chair of the Agricultural Engineering Graduate Committee, the Department applied for and was granted approval by the Graduate School to offer the Master of Science in Agricultural Engineering. This was followed by approval to offer the Ph.D., and in 1965, 33 students were enrolled in graduate studies in the Department.

Professor Dale's early research evaluated low-cost insulation options to improve conditions in rural Indiana. He continued his energy research in the mid 70s during studied both static and dynamic methods of collecting solar energy. He was among the first in the US to recognize that environmental issues could limit commercial animal production and initiated Purdue's program in research, teaching and extension for managing and treating wastes from animal production in the mid 1960s. He was recognized by the Indiana Farm Bureau for his innovative developments in farm building design. His work, along with that of Professor W. H. Friday at Purdue was instrumental in the creation of post wood frame construction which led to the large, low-cost machinery storage buildings seen across the rural Midwestern landscape today. He retired in 1989.

On Sept. 6, 1947, in Nashville, Tenn., Alvin married Anna E. Chappell and she survives. Surviving with his wife are their children: Ava D. Berkheiser (husband: Vaughn) of Thomaston, Georgia, Alan C. Dale (wife: Joyce) of New Braunfels, Texas, and Alice Dale-Thomason (husband: Michael) of Boulder, Colorado and five grandchildren. One daughter, Anita C. Dale, preceded him in death in November 1993.

EDWIN J. MONKE, PH.D. Professor Emeritus of Agricultural and Biological Engineering having served Purdue University for 34 years before retiring in 1992, died on November 17, 2007 at the age of 82. Born June 7, 1925 in Harvel, IL, he was the son of the late Edwin H. and Lillian Prange Monke. He graduated from Harvel High School before serving in the Army from 1944-46. He then enrolled at the University of Illinois where he received BS and MS degrees in Agricultural Engineering and a PhD in Civil Engineering. Ed married Marian M. Hubb in 1963 in California and she survives as do their three daughters: Karen South, Sarah Badger and Dianne Bosnich. All three daughters received engineering degrees from Purdue University.

Monke began an outstanding academic career in 1951 as a full-time instructor in Agricultural Engineering at the University of Illinois. He joined the Purdue Agricultural Engineering faculty in 1958 and attained the rank of professor in 1967. A registered professional engineer and prolific writer, he contributed award winning refereed publications to his profession and authored pedagogically effective teaching materials throughout his career.

Dr. Monke's teaching and research were in the field of soil and water resources, with particular emphasis on drainage and non-point source pollution control. In the 1980's he was Principal Investigator or Project Director on a series of multi-million dollar EPA-funded research projects in Allen County. The goal of those projects was to discover field practices that would reduce erosion and non-point chemical pollution from agricultural lands. Outcomes included new watershed modeling tools and computer subsurface drainage simulators such as ANSWERS and DRAINMOD. These models enabled one to quantify the environmental quality benefits of minimum tillage practices and accelerated their widespread adoption.

Ed considered his research success to be, in large measure, an extension of his teaching. He was honored six times as the department's Outstanding Engineering Teacher during the decade of the 80's and, in 1990, received the A.A. Potter Outstanding Teacher award from the College of Engineering. In 1990 he also received the national Massey-Ferguson Medalist Award from the American Society of Agricultural and Biological Engineers (ASABE), its highest educator award. He is included in the first edition of Purdue's Book of Great Teachers. An uncommon philosophy Ed brought to his classroom was to develop the leadership potential in his students. Undoubtedly, this philosophy contributed to five of his 31 graduate students becoming heads of Agricultural Engineering departments and to several then attaining higher academic leadership positions.

CALENDAR

July

1 - ASABE Meeting, Providence, Rhode Island

August

6-17 - Indiana State Fair
25 - Fall Classes Begin
29 - Last Day For Late Registration

September

15-19 - Galaxy III Conference in Indianapolis

PURDUE FOOTBALL SCHEDULE

September

6 - Northern Colorado (home)
13 - Oregon (home)
20 - Central Michigan (home)
27 - at Notre Dame (away)

October

4 - Penn State (home)
11 - at Ohio State (away)
18 - at Northwestern (away)
25 - Minnesota (home)

November

1 - Michigan (home)
8 - at Michigan State (away)
15 - at Iowa (away)
22 - Indiana (home)

ABE Retirements

PROFESSOR GAINES (BUDDY) MILES

retired after 25 years of service with Purdue University in the Agricultural and Biological Engineering Department.



Buddy joined Purdue in 1983 as an associate professor and became a full professor in 1989. His research interests are power and machinery with interests in robotics, machine vision, expert systems and artificial intelligence applied to mechanization of specialty crops.

Buddy received his BS in Agricultural Engineering in June 1968 from Mississippi State University, and his MS in Agricultural Engineering in December 1972. He attended Purdue University, 1972-1975, where he received his PhD. in Agricultural Engineering in December 1975.



Judy & Buddy Miles

Professor Miles through the Agricultural Systems Management program helped prepare graduates to develop and manage technology-intensive agricultural production and processing systems.

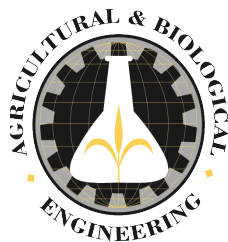
The ABE department is establishing a scholarship fund in honor of Professor Miles to benefit Agricultural Systems Management undergraduate students.

Gifts for this scholarship fund may be sent to Becky Peer, Agricultural & Biological Engineering, 225 South University Street, West Lafayette, IN 47907.

PURDUE

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Published for Alumni and Friends of
the Department of Agricultural and
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