



ABE Named #1 By US News & World Report



The ABE Department at Purdue has experienced much success in the national rankings issued annually by the US News and World Report.

Last named the top undergraduate program in 2004, and consistently named in the

top 3, this year finds us at the top of the list for both the undergraduate and graduate programs. This marks the first time we have held both top spots simultaneously. The graduate program is enjoying its third consecutive years as the top ABE program. While these rankings are not the primary reason our students choose Purdue ABE, they certainly give validity to our program and value to our degrees.

As Dr. Engel put it so eloquently in a message to our students, "When you chose our program, you knew you were pursuing a degree in an excellent program. The ranking confirms you made an outstanding choice."

Glenn W. Sample Dean of Agriculture Jay Akridge added, "As exciting as these rankings are, what I get excited about is the people of ABE. Your department is home to exceptional students,

faculty, and staff who care deeply about our education mission, and alumni and industry who support you 110%. Put that together with the terrific leadership of your Department Head, Dr. Benie Engel, and the great work and accolades follow."

Entering this school year, the department has experienced significant growth; current undergraduate enrollment is 384 and graduate enrollment is 112, both all-time highs.

ADM Agricultural Innovation Center

June 7, 2011 was a landmark day for Agricultural & Biological Engineering! The long-anticipated groundbreaking for the new ADM Agricultural Innovation Center marked a huge step forward for our students.

This state-of-the-art, 24,000 ft² facility includes two flexible-space classrooms with connectivity that allows 48 smart devices to connect simultaneously. Multiple screens in each side maximize usability for team projects. The walls are even painted with whiteboard paint!

Partnering with ADM, we are excited to have this classroom space, plus three high-bay spaces, one that will serve as a key teaching labo-

ratory and demonstration space as well as window access from the classrooms to permit live demonstrations of even the largest combines. This will also dramatically increase space available for building and assembling senior projects.

Sharing space with the Research Machining Services

(formerly the Central Machine Shop) will offer our students unprecedented access to the skills and knowledge of our outstanding machinists. With a dedication planned for January, 2012, we look forward to showing you our new space.



The ADM Agricultural Innovation Center at Purdue

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Didn't get this in your email? Then we need your updated information! Email Carol Sikler with changes (sikler@purdue.edu)

5 STUDENTS

With the new branding campaign begun last fall, Purdue began identifying students, five at a time, who personify the excellence of our university. The ABE department has been well-represented.

Emilia Czyszczon, a Biological Engineering junior from Chicago, was featured in March's 5 Students Who...Are History Makers by Amy Raley.

Emilia has made history and staked a claim on immortality. She discovered a previously unidentified virus that will bear her name: Czyszczon1.

Bacteriophages kill bacteria, and that's the excitement for Emilia. "They show potential for fighting bacterial-caused diseases at a time when bacteria are becoming resistant to antibiotics." In fact, her research has shown that the virus she discovered kills a form of bacteria that's similar to tuberculosis and leprosy. "Tuberculosis is prone to being antibiotic resistant. It would be cool to see if my bacteriophage could be a stepping stone to finding a treatment for tuberculosis."

Isaac Emery, a graduate student in the Ecological Sciences and Engineering (ESE) and ABE Graduate Program from Corvallis, Oregon, was featured in October, 2010, as one of 5 Students Who...Are Making Global Impact by Sarah Showalter.

After obtaining his undergraduate degree, Isaac and a group of friends were frustrated because "we were not doing anything to better the world." That mentality led to Heroes in Green, a website that will combine role-playing and improving users' environmental footprint. "The goal of Heroes in Green is to make sustainability fun and rewarding. This site connects people who want to make a difference while reducing their carbon footprint and tracking their personal contribution to the planet." The site will also include social networking and functionality to track water use and non-carbon forms of pollution after development of the first beta site.

Danielle Carpenter and Matt

Wolf, both students (now alumni) of the BE program, were featured early in the series as 5 Students Who...Invent.

Danielle, from Plainfield, Indiana, is now employed by Catalent Pharma Solutions. Her invention was SOYTABS. Currently, many tablets are made in a five-stage process that includes wet granulation and drying. Carpenter's SOYTABS is a process as much as a product, which creates tablets out of soy in four steps where roller compaction replaces the wet granulation and drying stages. The roller compaction step is a 91 percent energy savings and the soy material is a less expensive and more bio-friendly material than what is currently in use.

Matt, from Newburgh, Indiana, works at Kraft Foods. His team won the 2008 Sara Lee Innovation Award competition, which challenges students to create new food products. Wolf helped develop a healthy whole-wheat, high-fiber, low-fat biscotti that can be swirled in any hot liquid to add sweetener, flavor, and creamer to the beverage. "You go through the entire marketing plan. Who's going to buy it? What are the benefits? What is the market size? Then you begin to formulate the product itself. You collaborate with industry professionals, procuring their raw ingredients. You figure out your process, what equipment you need and then you look at how much it will cost." Dr. Lindsay Birt, PhD, featured in May, is one of 5 Students Who...Are Policy Makers. The Houston native began her college career in chemical engineering, but she soon switched to agricultural and biological engineering, earning both her bachelor's and master's degrees in that subject. She found Purdue during her search for a Ph.D. program that combined engineering, manage-

ment and policy in the study of watershed management and environmental engineering.

Working with the Indiana Department of Environmental Management has given Lindsay an understanding of the need to coordinate agency efforts. A watershed management manual developed by her team has helped define how the state measures the success of its programs.

Haefa Mansour is a freshman from Mentor, Ohio, interested in Biological Engineering and is one of 5 Students Who...Are New Boilermakers. Maybe she will continue our difference - making ways. The work we do here matters!

See the full stories at our website:

www.purdue.edu/abe



ADM is the proud sponsor of our new Agricultural Innovation Center

"IT WOULD BE COOL TO SEE IF MY BACTERIOPHAGE COULD BE A STEPPING STONE TO FINDING A TREATMENT FOR TUBERCULOSIS."



Emilia Czyszczon



Isaac Emery



Danielle Carpenter



Matt Wolf



Lindsay Birt

An Ongoing Legacy Supporting ABE

Dr. Gary Krutz is a fixture in the ABE department. His tenure of 35 years makes him one of the longest-serving faculty members on staff currently. The thousands of students he has taught, advised, and mentored continue to maintain contact with Dr. Krutz, and many of them visit regularly.

In 2000, Gary and his wife, Barb, began a scholarship fund for students in the department. With an original

endowment of \$20,000, the account has now reached \$30,000 and pays out \$1,500 in scholarships each academic year. Knowing that he can continue to help students into the future, Dr. Krutz wants to say thank you. "I want to thank those who donate to scholarships, provide internships and jobs, contribute to research support, senior project support, and new summer APPS project support."

Dr. Krutz is well aware

that the rise in educational expenses may keep students from choosing Purdue ABE. With an eye to the future, Dr. Krutz is a very effective advocate for our programs. He has been instrumental in securing significant gifts to the department and hopes that the new College of Agriculture matching initiative will inspire those who have benefited from these gifts to do something similar to support ABE.



Professor Gary W. Krutz

Scholarship Opportunity

The College of Agriculture is offering limited-time opportunity for those interested in endowing a scholarship: for gifts of \$12,500 or more, the College will match the gift (up to \$100,000), thus doubling the endowment. We are pleased that we have a number of scholarships endowed by alumni and former faculty; this offers us the opportunity to increase the number of scholarships we award each year at the Spring Awards banquet. This particular matching is provided for scholarships that will be given only to Indiana students.

The gift can be made as a lump-sum, or can be paid out over 5 years, and may be tax deductible, depending on your circumstances. A matching gift from your employer could significantly reduce your commitment. The University matching begins as soon as the \$12,500 threshold is met and distribution follows. If you are not sure whether your employer matches, the University Development Office provides a searchable database at <http://www.matchinggifts.com/purdue/>. A pledge will place a hold on matching funds to guarantee the amount. The

scholarship can be named at your discretion.

We would be delighted to share more details about this opportunity. Please feel free to contact Dr. Bernie Engel at 765/494-1162 and then Joel Hartman will provide the necessary paperwork.



ASABE 1/4 Scale Tractor Team

The ABE ASABE 1/4-Scale Tractor Pull team has experienced significant success in the past four years. Boasting more than 50 "alumni" since 2008, the team has scored some impressive victories.

In 2008, the team placed 14th overall. The specific awards were 17th place in Written Design, 12th Place in Team Presentations, 8th Place in Design Judging, 21st Place in the actual pull, and 10th place in Maneuverability.

The 2009 team improved significantly on those results.

Placing 3rd overall, the team also earned 10th in Written Design, 18th in Team Presentations, 2nd in Design Judging, and 5th in both the actual pull and in Maneuverability.

The 2010 team maintained consistency by placing 5th overall, and earning 7th in Written Design, 9th in Team Presentations, 8th in Design Judging, 5th in the actual pull, and 13th for Maneuverability.

Team 2011 continued the winning ways: 3rd place overall, 14th in Written Design, 8th in Team Presentations, 6th in Design Judging, 1st in the last pulling class, and won the Maneuverability Award. This team also planned and hosted a Homecoming event for 1/4-scale alumni in conjunction with the 2011 Purdue Homecoming festivities.



2011 1/4-Scale Tractor Team

...THIS OFFERS US THE OPPORTUNITY TO INCREASE THE NUMBER OF SCHOLARSHIPS WE AWARD EACH YEAR AT THE SPRING AWARDS BANQUET.

The work we do here matters!

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Do you have information on a job or internship that might be a good fit for one of our students or graduates? We need your help in identifying opportunities for our students. Contact Yvonne Hardebeck at 765.494.1172 or hardebey@purdue.edu

Undergraduate Reaches Out to Developing Countries

Driven by a strong desire to help people in developing countries through agricultural development, HannahJoy Pheasant is a woman on a mission. She is already earning her research stripes through the Discovery Park Undergraduate Research Initiative (DURI) and the Ecological Sciences and Engineering (ESE) program, an interdisciplinary approach to the Grand Challenges, including access to clean water, managing the nitrogen cycle, restoring and improving urban infrastructure, and providing a safe food supply. DURI provides opportunities for students to work with faculty affiliated with Discovery Park on cutting-edge research projects that involve combining two or more disciplinary strengths.

Originally traveling to Cameroon with the Basic Utility Vehicle (BUV) team in 2011, the ABE junior also developed a project to create a more eco-friendly way to fuel family kitchens and homes. The reaction in the farming areas to the need for wood is simple: cut down another tree. HannahJoy worked out a design for a biomass briquette press that utilizes banana peels and sawdust, both commonly-available items. What she discovered upon traveling to Cameroon and comparing her technique to their custom, was that while trees are available, interest is non-existent in a fuel that will cost money.

However, her idea was much more widely embraced in the cities where trees are hard to come by.

HannahJoy has set her sights on returning to Africa, either to Tanzania or Kenya next. The Institute for Affordable Transportation, which is the sponsor of the national BUV competition, is looking to start-up a BUV micro-factory with a partner in Tanzania. She has also found a project with the IU Medical Center and a Kenyan university that supports an

AIDS clinic through agriculture development. "If they don't have enough to eat, the medications are not as effective." She sees this as a good match for her skill set.

With Maymester approaching, China and Brazil have also emerged as locations of interest. With the planet's population topping 7 billion in the past month, the need for a reliable source of food is going to continue to be a Grand Challenge. And HannahJoy is planning on tackling that challenge head-on!



HannahJoy Pheasant conducting a consumer interview in Cameroon.

