

# RESOURCE

engineering and technology for a sustainable world



## EXPLORE

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AND SYSTEMS MANAGEMENT**  
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**ON THE COVER**  
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# RESOURCE

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## WELCOME TO OUR SIXTH ISSUE OF EXPLORE!

Perhaps you are entering a new chapter of your life. Maybe you will soon be deciding a future path ... leaving home, choosing a major, making new friends, searching for a career.

*Explore where careers in agricultural technology and systems management can take you* is designed to showcase the opportunities in this growing field. If you aren't familiar with an ag systems degree, read on! We think you will be impressed with the diverse possibilities—from study abroad and hands-on internships to jobs awaiting ag systems graduates. If you have decisions ahead, you may discover that you like what ag systems has to offer.

### CONTENTS

4 Your questions answered about ag systems

*More than you thought possible:*

### PROFILES IN FINDING A PASSION AND PATH

6 Typical Day? Only the coffee!

7 Dancing to the moment

8 May I help you?

9 Living the dream

10 Knowing your passion

11 Racing to the finish line

12 Trading with energy

14 Putting the future in focus

15 Internship? Travel? Must do!

16 It's all about technology

17 Take on the world!

18 Gettin' down and dirty

19 GO for it!

20 Do it for yourself!

22 JD all the way

23 How to find a job? Network!

24 Living large and Greek

25 Sushi, anyone?

26 Global and civic initiatives

27 Career Opportunities

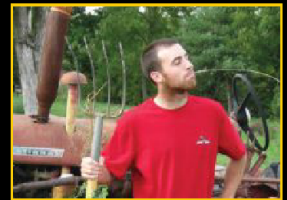
28 Searching for a school?

29 Professional listings

30 Professional opportunities

31 What's your passion?

ASABE can help make it happen!



### ADVERTISERS

Inside Cover:

Texas A&M University

13 Iowa State University

Purdue University

University of Nebraska-Lincoln

20 University of Kentucky

21 University of Missouri

University of Wisconsin-River Falls

31 Penn State University

Back Cover:

University of Illinois at Urbana-Champaign

# YOUR QUESTIONS ANSWERED

## **WHAT IS AN AGRICULTURAL SYSTEMS DEGREE?**

An agricultural systems degree combines an understanding of the agricultural, biological, and physical sciences with business, managerial, and technical skills. Graduates with this type of degree find careers in the production and processing of agricultural products into food, fiber, feed, and fuel, and the distribution of agricultural products and services. Renewable energy, biofuels, and environmental quality are becoming dynamic career fields for agricultural systems graduates.

Agricultural systems focuses on the application of engineering principles, the study of technology used in agriculture, and the integration of business management concepts in the agricultural and food industries. However, the skills taught in agricultural systems courses are applicable in many industries, and a significant number of students take employment in other industries. This degree is ideal for those interested in technical sales or technical management for an agriculture-related business involved in production, processing, or manufacturing.

## **WHY DO THE UNIVERSITY PROGRAMS HAVE SO MANY DIFFERENT NAMES?**

Prior to the early 1990s, most of the programs were simply called agricultural mechanization. Careers for agricultural systems graduates have expanded far beyond mechanization. Many universities have changed the scope of their programs to focus on emerging technologies as they apply to food, energy, and environmental systems, in addition to traditional agricultural systems. These programs address society's need to efficiently utilize natural resources and protect the environment.

The names reflect the philosophy of the school in responding to these issues. So, although they may have different names, these programs are often quite similar. Program names currently in use are:

- Agricultural and Environmental Technology
- Agricultural Engineering Technology
- Agricultural Operations Management
- Agricultural Systems Management
- Agricultural Systems Technology
- Agricultural Technology Management
- Agricultural Technology and Systems Management
- Bioresources Engineering Technology
- Engineering Technology Program
- Mechanized Systems Management
- Technical Systems Management

Consult the individual universities with questions regarding the direction and focus of their programs.

## **HOW DOES A DEGREE IN AGRICULTURAL SYSTEMS DIFFER FROM ONE IN AGRICULTURAL ENGINEERING?**

Today, engineers and agricultural systems graduates both work with the same types of buildings and equipment, the same crops and animals, the same sensors and computers, and the global society, yet there is a distinct difference in the

work they do. The engineer is trained to analyze and design a process, system, or mechanism, while the agricultural systems graduate is able to identify system problems, formulate possible solutions, analyze the impact of alternatives (including social and economic dimensions), and then implement the best solution. Agricultural systems graduates get a broad and basic background in agriculture and the physical sciences, along with courses in business, economics, and management.

When comparing agricultural systems to engineering, you will find that agricultural systems programs are less theoretical and more practical. Emphasis is on hands-on experiences with equipment, and many courses have laboratory sections.

## **WHAT DO I NEED TO KNOW TO GET INTO THE PROGRAM?**

An aptitude for science and math, plus an interest in solving problems, is really necessary for this field. You should also have an interest in electronics, computing, and business management. In high school, prepare well in mathematics, physical and biological sciences, English, and agriculture. Take the most advanced high school courses available to you in these areas and, if possible, take courses such as CAD (computer-aided design) and information systems. You don't have to be a math wizard to be an agricultural systems student, but mathematics is used a great deal.

## **DO I NEED A BACKGROUND IN AGRICULTURE FOR THIS MAJOR?**

No. This curriculum has the flexibility to allow students from rural, suburban, and urban backgrounds to develop a program to meet their personal career objectives.

## **IS THIS A GOOD OPTION FOR WOMEN AND MINORITIES?**

This field is a great option for women and minorities. The number of women and minorities entering the field continues to rise.

## **ARE INTERNSHIPS AVAILABLE?**

Yes. This curriculum offers many opportunities for internship work experiences in a variety of companies and organizations. Many experiences are paid internships. For some programs, internships are required for graduation.

## **HOW CAN I FIND OUT WHAT SCHOOLS OFFER PROGRAMS IN AGRICULTURAL SYSTEMS?**

The schools currently offering agricultural systems programs are listed on page 28. Be sure to check with the school in which you are interested regarding its particular program. Begin your search in the agricultural and biological engineering departments, where these programs are typically administered.



# ABOUT AG SYSTEMS



## HOW DO I SELECT THE SCHOOL THAT IS A GOOD FIT FOR ME?

The internet is a great place to begin your search. Many universities provide detailed information about their programs, including course requirements, on their websites. (See page 28 for a list of universities and websites.) After you have narrowed your choices, visit the top schools on your list. The faculty, staff, and students will be happy to meet with you and show you their facilities. By visiting, you will get a sense of whether their program and setting is right for you.

## WHAT ARE THE COURSE REQUIREMENTS LIKE IN THESE PROGRAMS?

There is no single curriculum for ag systems programs. In fact, they can vary somewhat, but the core foundations are similar. ASABE has suggested guidelines: 15% math/science, 15% technical ag, 15% management, 15% ag systems management, 10% humanities/social sciences, and 15% composition/communication. These programs integrate a broad education with expertise in agricultural sciences, applied technology, and business management. Courses are relevant to all phases of the food, agricultural, natural resources, and environmental industries.

Graduates will be able to integrate and apply advanced agricultural technologies and equipment through student experiences in machine and power systems, computer applications, materials handling, food and materials processing, environmental resources management, electrical/electronic systems, and information/decision support technology. Required coursework balances hands-on knowledge of technology with instruction in agricultural and environmental sciences and agribusiness principles.

Supporting courses provide a foundation of math, chemistry, computer, economic, and communication skills. Computers are used to collect and analyze data and then act on that information to control machines and processes, in addition to communication and information retrieval. CAD programs are used to plan equipment and building layouts.

## WILL I HAVE TIME FOR EXTRACURRICULAR ACTIVITIES? HOW MANY HOURS A DAY WILL I NEED TO STUDY?

Let's look at the second question first. How much time you devote to your studies depends on you and your expectations. Many colleges say that for every hour you spend in class (often 15 hours per week) you should spend approximately two to three hours studying outside of class. Tougher courses may require more time, easier courses less. Much depends on an individual's ability, attitude, and motivation. That said, students shouldn't be expected to study at the expense of all outside activities. Employers are looking for well-rounded new hires, who can balance study with involvement in student activities. You will be able to build your leadership, communication, and organizational skills by being involved in

clubs or sports. Most schools have an agricultural systems club. Be sure to check out the ASABE student branch on campus. (See page 31 for more information about ASABE.)

## CAN I AFFORD THE EDUCATION?

Typically, the cost of an agricultural systems education is comparable to most other college programs. These costs will vary depending on the school you choose. Paid internships can help pay the cost of your degree.

Don't let the cost of higher education prevent you from attending the college of your choice. Most students today need some kind of financial assistance. Numerous types of financial aid are available, such as grants and scholarships, loans, work-study programs, and part-time employment. They are available from many sources, including the federal government, state agencies, professional societies (such as ASABE), and universities. When visiting a school, be sure to stop by the financial aid office to find out what programs the school has to offer.

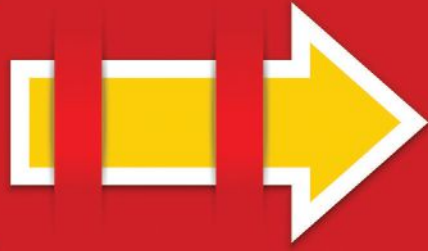
## WHAT IS THE CAREER OUTLOOK? WHAT TYPES OF COMPANIES WILL I WORK FOR?

Agricultural systems graduates are in great demand. Many agricultural systems schools have a placement rate approaching 100%. The starting salaries are highly competitive and are among the highest of college of agriculture majors. Employers and career opportunities are vast and varied. You could be working for major equipment manufacturers such as Caterpillar or AGCO, seed and grain companies like Monsanto or ADM, government agencies such as the Natural Resource Conservation Service or the Peace Corps, companies like Frito-Lay, Toro, ConAgra, or emerging companies in the biofuels industry. Agricultural systems students are also hired by smaller businesses such as cooperatives, cotton gins, regional manufacturers, and construction companies, to name a few. Or you could start your own business!

## ARE THERE INTERNATIONAL OPPORTUNITIES?

Most schools offer a variety of international programs for students; study abroad, exchange programs, tours, and service learning are a few common types. In many programs, students actually work with faculty and other students on applied projects. The faculty and students travel as a group and can receive academic credit. Given the increasing globalization of agriculture and business, international experiences as a student can be valuable for your career. The opportunities are endless!

*Research and editorial assistance provided by Tom Brumm, Associate Professor, Iowa State University; Joe Harper, Professor, University of Illinois; and Steve Searcy, Professor, Texas A&M University.*



## Typical Day? Only the coffee!

“ I grew up on the family farm, which resulted in a strong interest in all things agricultural. In college, the trend seemed to be toward precision agriculture, with a high demand for specialists in that field, so I figured, ‘Hey, I’ll give it a shot!’

My parents pushed me to explore the options, and ASM seemed like the best choice. I checked out the University of Minnesota Crookston because it was close to home, and I was able to work on the farm on the weekends. An added bonus: I soon realized how highly regarded the school is and how compelling an ASM degree looks on a résumé.

Throughout my college years, I worked at R&G Ag Services in Warren, Minnesota. R&G provides crop consulting and soil sampling to growers in northwest Minnesota. This job helped me develop my agronomy skills.

Every week, I provided clients with scouting reports and recommendations on various crop applications.

While working at R&G, I did a lot of soil sampling for the J.R. Simplot store in Stephen, Minnesota. One day, on a whim, I stopped by to talk about jobs. The next thing I knew, I was on a plane to Scottsbluff, Nebraska, for an interview!

I got a job offer from Simplot, which is one of the largest privately held food and agribusiness companies in the nation. Simplot develops innovations in plant nutrition and food processing, finding new ways to feed animals and sustain ecosystems, and striving to feed a growing global population. Coming out of college, I wanted to work for a company with a good name and reputation. Simplot is right up there with the best of them, and it offers a lot of room for advancement—which might not be available at a smaller company.

There is no “typical” day where I work! Precision agriculture is complicated. In the fall and winter months, I drive a John Deere Gator through the fields, pulling an EM38-MK2—an instrument that measures the electrical conductivity of the soil. I log data points in the field with Farm Works software, installed on a Trimble Yuma monitor. All the data points are georeferenced with latitude, longitude, elevation, and conductivity readings. From there, I process the information and create management zones on which to base variable-rate seeding and fertilizer applications. During the summer, I work with moisture monitors and take thousands of petiole samples. Come fall, I’m up to my elbows processing yield data.

The thing that satisfies me most is being able to share what I learned in school by working with growers. Some aspects of precision agriculture can be hard to wrap your head around, and I feel that I’m there to help with that. Being able to help growers understand precision agriculture and build their farms around the concept gives me a wonderfully rewarding feeling. My biggest challenge is staying on top of all the new and changing technology!

It’s too soon to tell if this is my dream job. Precision agriculture will continue to change in the coming years—in ways that I can’t even predict—so I’ll just have to wait and see. For now, my ASM degree seems to be a great way to prepare for those changes. In fact, a day doesn’t go by when I’m not reading about something new in precision agriculture.

My current plans are to learn as much as I can and become the best that I can be at my job. Who knows?—maybe even get married and have a family along the way. In the meantime, just hand me a cup of coffee. Coffee keeps me perking along through the hectic days!

### Steven Webster

Kennedy, Minnesota

University of Minnesota Crookston  
*Agricultural Systems Management  
and Precision Agriculture, BS, 2013*

Finds time for biking, running,  
basketball, softball, football, and  
another cup of coffee



## Caitlin Hubner

Assumption, Illinois  
Purdue University, *Agricultural Systems Management*, BS, 2016

Loves tractor and truck pulling;  
ballet, tap, jazz, hip-hop;  
watching baseball; concerts

“When I’m not in school, I work for our family’s excavating business. I’ve learned all about different types of construction equipment while operating a wheel tractor scraper, backhoe, wheel trencher, grader, bulldozer, and various excavators.

I helped install a tile drainage system in my high school’s baseball field last summer. That was a great experience! Along with the excavating business comes working on the family farm. My father and grandfather have a small operation of about 300 acres of corn and soybeans, and my brother and I have gained a lot of practical ag insight while lending a hand.

On my own, I grow about an acre of sweet corn every year. The project began as a supervised agriculture experience for FFA during my freshman year of high school, and I’ve been doing it ever since. Now I’m in the process of handing it over to my brother for his FFA supervised ag project—a really good way to learn about owning a growing business!

The first time I visited Purdue University, I had a “meant to be” moment. Purdue was the second school on my “to visit” list. While walking around campus the night before the typical college tour scheduled for morning, I knew Purdue University was meant to be my college home.

The following autumn, I started my first semester in



## Dancing to the Moment

engineering. By Thanksgiving, I realized that I wanted more ag-centric and hands-on coursework. I talked to a member of the ABE Department, and he suggested checking out ASM. I read the description of the major and perused the courses that it entailed, and I knew that it was right for me—it was an “Aha!” moment. This was confirmed by an Introduction to Agricultural Systems Management class. When we started studying engines, I realized that this was what I’d been looking for—in-depth details about machines just like those used on the farm and in excavating!

If you’re considering an ASM degree, talk to older students in the program. They can tell you their stories—why they chose ASM—and they can tell you about activities that enhance the program. I wish I had gotten more involved in clubs and activities during my freshman year, but I’m grateful for the big extras that round out my days now: the ASM Club, the 1/4-Scale Tractor Team, Purdue’s ASABE Chapter, the Alpha Mu Honor Society, and Purdue ABE Ambassadors. I’ve formed friendships that will last forever!

This past summer, I interned with Advanced Ag Solutions in West Lafayette, Indiana, working as a crop scout. I was super excited about this first internship because of my avid interest in agronomy, and internships are a good way to get a foot in the agriculture industry’s door!

Because of my ag background, it often surprises people to find out that I danced for 16 years before attending Purdue. I studied ballet, pointe, jazz, hip hop, lyrical, and tap at a dance studio. I was on the studio’s competitive dance team, my high school’s competitive team, and I taught pre-school level dance and tumbling classes.

In dance and in college, you have to find the rhythm and move to the beat. There are many styles of dance, and many ways to choreograph a college career. Four years isn’t a long time, so test your steps early and often, watching for the “this is it!” moment. As I look ahead, I hope to secure a career in the equipment industry, agriculture, or construction as a product or equipment testing specialist, but for now I’m enjoying the academic dance, and hoping for a chance at a virtuoso performance after graduation.





May I help you?

“I wanted to work in the ag industry because of the people. Folks involved in agricultural enterprises are down-to-earth and hospitable, and you can learn so much from them.”

## Heather Michalka Wilson

Florence, Texas

Texas A&M University, *Agricultural Systems Management*, BS, 2011

Spends free time hunting, reading, photographing

When I started at Texas A&M, I signed on for civil engineering. While that’s a great degree, I just didn’t feel that I belonged—that it wasn’t my purpose. After talking with an advisor about other options, I got hooked on ag systems management and changed my major. Within the ASM program, I met people who wanted to get to know me, help me succeed, and cared about me. In turn, I wanted to be the best I could be, and more.

During your freshman year, it’s important to know that it’s OK to change your major, and most likely you will. You have to pursue what you enjoy and find a degree that will help you be successful.

I am a fourth-generation Aggie, so I always say Texas A&M was bred into me. It’s an amazing school, and there was no other choice for me. As a student technician, I worked in the Dust Particle and Cotton Lab, and I was able to network with people in the ag industry. My college experience helped me obtain a position and begin my career path after graduation.

Another great experience was getting involved in the ASM club as secretary. We had BBQs and hung out all the time, even after spending all day together in classes! I also met my husband through my major; we graduated together in ASM and started dating after graduation. Being involved in student organizations clearly provides some awesome opportunities!

Right now, I work in Waco, Texas, at Holt Agribusiness, the largest Caterpillar dealership in the United States. My degree really prepared me for this work—in fact, my job is a perfect fit. The different soil conditions, and other factors in this geographic area, determine the type of tractors and equipment that farmers need. I work with two teams in Texas—about 12 people total—collecting purchase documents and organizing transportation for machine delivery, as well as assisting customers in the Waco store and over the phone.

I am a people person—talking with and helping others is what I enjoy most. It’s my greatest job satisfaction. If I can make someone else’s day better, that makes my day better. And solving problems to get the job done right is another source of pride. If I’m unable to help or figure something out—that’s my biggest frustration. When I’m not able to resolve an issue simply, I look for other ways to fix it.

My dreams are always changing. I can see myself working in my current role for a while and, maybe later owning my own company—or maybe flipping houses, running a hunting ranch, or creating a program for kids—who knows? For now, I’m satisfied, and I can see a career in serving people. Working in equipment sales is a great opportunity for me, and a great challenge!







“My parents emigrated from Pakistan in 1980. As clichéd as it may sound, they came to the United States in search of the American Dream. They left their loved ones and everything they had ever known to provide their children with opportunities that they never had.

The struggles that my parents endured are etched in my memory, forcing me to strive to better my future. As immigrants, my parents always stressed the importance of education. They supported my decision to enter a field that would be both challenging and rewarding.

Attending the University of Illinois at Urbana-Champaign was a no-brainer for me. Coming into my freshman year, I was undecided about a major—like many others. But I knew that UI, the flagship state school in Illinois, had the resources for me to succeed. I chose to major in Technical Systems Management because of the mix of business and technical coursework.

Because I didn't come from an agricultural background, like most of my peers, I was a bit nervous about my future job prospects—I felt I would be at a disadvantage. However, at a career fair during my junior year, I saw how “in demand” the TSM degree is—and UI has an outstanding career center that helps students through the entire career search process, from résumé critiques to mock interviews.

If you're considering this degree, be sure to take classes outside your comfort zone. If you're not a hands-on person, then take more hands-on and technical courses. Those were the most enjoyable and beneficial classes for me. What's more, most recruiters that I talked to stressed the value of individuals who are technology-inclined and able to do hands-on work.



**Humayun Tariq**  
Chicago, Illinois  
University of Illinois at Urbana-Champaign  
*Technical Systems Management, BS, 2013*  
Grooves on working on cars and motorcycles, traveling, road trips, and photography

The summer before my senior year, I interned with the Chicago Department of Streets and Sanitation as a data analyst. I took on the role of project manager, relying on my previous experience owning and operating a snow removal company. My team's project was to determine a streamlined route for snow and trash removal in the city's 50th Ward. After analyzing the existing routes, we developed a more efficient route that could reduce road salt use during winter months by up to 13%.

Currently, I work for John Deere. I was recruited at an on-campus career fair. John Deere is ranked as one of the best companies to work for, and I look forward to a long career here. Deere has endless opportunities for employees to grow and allows employees to move into different concentrations. So far, I have been involved in data analytics, dealer consultations, and incentive program analytics.

There is no typical day at work! It all depends on what type of project is on the go. Sometimes I sit at my desk, analyzing sales reports for hours at a time. However, there are times where I'm out of the office, traveling for weeks, visiting dealerships, auditing sales reports, and attending trade shows. That variety keeps my job interesting, and it prevents the monotony of a stereotypical office job.

What satisfies me most is that I work for a company that has strong ethical values—a company that creates products that help build and feed the world. John Deere agricultural and construction equipment can be seen everywhere, and our products serve as the basis for many peoples' livelihoods.

Working for a company of this caliber, I have my dream job, with endless opportunities, and with coworkers who are supportive and helpful. At the end of each day, I know that Deere has served important endeavors around the globe, and I'm proud to be a part of that.

## Nathan Chess

Hadley, Pennsylvania

Penn State University, *Agricultural Systems Management*, BS, 2013

Enthusiastic about tractor pulling, hunting, fishing

“It is important to understand exactly what an ASM degree offers. ASM is known by different names at different universities, but the programs offer similar content and a degree with a bright future. As long as people need to eat, agriculture is always going to be necessary—and there will be jobs available.

My grandfather instilled in me the desire to farm, along with a drive to improve agricultural practices. My parents encouraged me to find a degree program that would allow me to focus on my passions in the ag field. I wanted a degree that focused on hands-on learning and increased my skills across the many different aspects of agriculture. Enter Penn State University!

Penn State offered a program that best suited my desires and needs, both in the classroom and with practical “hands-on” experience and personal involvement from the ag faculty. Penn State has great facilities spread across the campus—from metal shops to livestock barns—all under the watchful eye of Beaver Stadium, home to the Nittany Lions. I could not have asked for a more exciting environment to stretch myself into the future!

Like most of my classmates, I was able to talk with recruiters at career fairs on campus and at ASABE’s 1/4-scale tractor competitions. Most recruiters understand the importance of a strong ASM degree and are eager to work with you from start to finish.

Without a doubt, the highlight of my entire Penn State experience was leading Penn State’s 1/4-scale tractor team as head captain during my senior year. Receiving the Outstanding Senior Award in Agricultural Systems Management comes in a close second!

I landed my first internship as a product validation specialist, and that’s where I had my “Aha!” moment. Working at Case New Holland—basically my idea of a dream job—I realized that the Penn State ASM program was a solid choice, and that it was going to pay off.

As an intern with CNH, I worked primarily on the development of the new generation of 5x6 North American round balers. I was responsible for running tests and reporting issues while racking up bale counts across the United States. After graduating, my agricultural experience and my education landed me my present position with CNH. It also helped that I’m naturally curious, always looking for a new approach to challenges. Ultimately, I would love to develop something cutting edge in the agriculture industry!





## Racing to the finish line

### Megan Betzel

Landrum, South Carolina

Clemson University, *Agricultural Mechanization* with minors in *Business Administration* and *Crop/Soil Environmental Science*, BS, 2015

Loves horseback riding, 4-wheeling, hiking, and water skiing

“ I am a senior at Clemson and a competitive rider in equestrian events. I have my horse, Torque, with me at school!

Aside from riding, my favorite pastime is working on anything with a motor. When I'm not in the barn, I'm in the garage—fixing, building, and tearing things apart to see how they work. I particularly love engines!

I began my studies in mechanical engineering and completed a year before deciding that it wasn't for me. I switched to agricultural mechanization my sophomore year and was fascinated with the classes—everything from electrical systems and hydraulics to soil and water conservation. The program is full of information that can be applied to life, no matter what you choose to do after graduation.

Another deciding factor for the change was the job front after graduation. Ag mech has an incredible employment rate—around 98%—and it's only going higher. Ag technology will offer more and more opportunities across the United States and internationally. To me, ag mech means diversity, functionality, and job security!

Last summer, I completed an internship with ADM. There is an abundance of internships available for ag mech students, and I was exhilarated that mine was with a large and prestigious company. As an intern, I was trained in Agricultural Services Operation Management. The first four weeks were spent at a grain elevator in Weldon, Illinois, where I learned about the day-to-day activities associated with storing and shipping grain. I had never been to a grain elevator before! Since it wasn't harvest time, we did a lot of preventative maintenance—checking and replacing sensors, inspecting and updating equipment, and gathering quotes on major items, such as roof coatings and new truck scales.

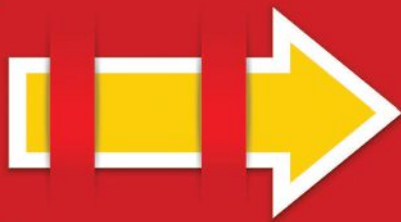
As well, I was extremely fortunate to be included in company travel to Puerto Rico and the Dominican Republic with the Environmental Manager of Ag Services, the Ag Services Operations Manager for the Caribbran, and the Manager of Gold Peanut (a division of ADM). The trip was part of ADM's Global Health and Safety Week. We toured four Alliance Nutrition plants (ANI is a subsidiary of ADM) and a grain elevator. Upon our return, I kept my suitcase at the ready and continued traveling!—to Illinois and Missouri—with the Ag Services Manager for the area east of the Mississippi River and four visitors from Sinograin in China. We toured local grain storage facilities, and I felt honored to be included. My ADM colleagues did their best to ensure that I received the best internship experience possible.

Did I ever regret switching majors in my sophomore year—from mechanical engineering to ag mech? No! In fact, starting out in a major that did not offer a personal connection with the faculty has made me appreciate what I have now—instructors who really get to know their students and adapt their classes and teaching styles so that every student can succeed. My fellow classmates and I really like and respect the ag mech faculty.

My interest in motors surprises many people. Because I am a woman, some of my peers write me off as mechanically ignorant—and I enjoy proving them wrong! I take pride in having a bigger set of tools than a lot of my guy friends!

As for the future, I want to continue to compete with my horse in international, upper-level competitions, maybe even the Rolex Kentucky. I also love to travel, and I want to see Italy, Sweden, Germany, France, Africa, China, and many other places. Most of all, I want to continue learning, and I don't want to miss out on anything.





# Trading with energy

“ I cannot remember a time when I wanted to do anything else than be an energy trader.

## Cate Gagliardo

Glenview, Illinois

University of Illinois at Urbana-Champaign  
*Technical Systems Management, BS, 2012*

Avid Chicago Blackhawks fan,  
horsewoman, cook, and  
Crossfit enthusiast

My father owned a vegetable oil business in Chicago—Columbus Foods Company. He bought waste oil from customers, refined it, and mixed an 80/20 biodiesel blend. Dad had a big vision for renewable fuels early on. You could feel his passion when he talked about the future of biodiesel. In 1995, the Secretary of Energy came to the plant and gave Dad a grant for his biodiesel work. Ever since then, I've had an interest in energy.

I chose the University of Illinois College of Agricultural, Consumer, and Environmental Science (ACES) because it offered what I needed to gain a background in business and science. The Technical Systems Management program offered the classes I wanted—from the financial side of trading to the chemical structure of fuels.

My sophomore year, I went to an interview with Archer Daniels Midland the day after the ACES career fair. During the interview, I felt Dad's passion as I explained my reasons for wanting to trade: my background growing up in the vegetable oil business and the classes I had taken to prepare myself. About ten minutes after the interview, I got a phone call from ADM with an offer to intern in grain merchandising at their soybean plant in Mankato, Minnesota!

That internship taught me the ins and outs of merchandising: pricing, logistics, operations, and everything in between. It was an extremely wet Midwest summer, which showed me how much weather affects the pricing of a new crop. I also had a livestock rations project, investigating how much protein was needed at certain life stages to determine how soybean meal compared to other protein sources in livestock diets. I also described what the current market was for each product and how that affected which product was used in livestock diets.

I went to the ACES career fair again in the fall of my senior year. Gavilon, LLC, in Omaha, Nebraska, offered me a chance to work in the ag and energy sectors—the best of both worlds since I had an ag background but wanted to dive deeper into the energy world.

After graduation, I began as a trade operations specialist. I handled biodiesel, ethanol, and refined products, overseeing each product's production and logistics, and ensuring correct pricing, including the money made or lost as a result of the prior day's activity. I dealt with different traders and came to understand how their products move, how prices fluctuate, and how trading works.

I've just started in a position as a rack marketing manager. It is fairly new, but basically I sell gasoline and diesel fuel in the Gulf Coast region—particularly Texas and Louisiana. Each day, I talk to customers, see how much product I have at my locations, watch how the market is doing, and then set the next day's prices. Eventually, I would love to be a crude oil trader or marketer.

I love working in a fast-paced environment. My new role keeps me learning, and there is something different every day. I work better under a little stress, so being a part of the trading world is a good fit for me. But I'm also a bit of a gear head! I like to understand how things work. My sophomore year, I took a set of construction and electrical wiring classes. In these classes, we built and wired a to-scale house. We also learned to wire motors—fascinating stuff!

I love horseback riding, too. I have been competing on and off since I was ten years old. And my mom, brother, and I are huge Chicago Blackhawks fans. We split season tickets, and I try to make as many games as possible. This last season was a sad one, but I have a feeling they're going to bring the Cup back home in 2015!





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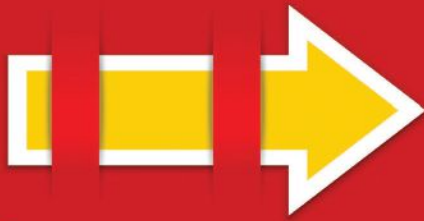
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# Putting the future in focus

“Fort Valley State University is a tradition for me. Quite a few family members have attended FVSU. Upon graduating from high school, I was offered several scholarships—most of them from FVSU. Now I am proud to say that I attend my chosen university almost free of charge!

## Brandon Quinn

Montezuma, Georgia

Fort Valley State University  
Agricultural Engineering Technology,  
BS, 2015

Interests: Literature, art,  
web design, basketball

I received another great honor after my first semester. I was privileged to have my portrait grace the university's mobile biodiesel unit. The administrators of the agricultural engineering program saw long-term promise in me as a student, and they made me “the face of the department.”

During the summer before my first semester, I participated in a research apprenticeship program at FVSU. In that program, I gained insight and hands-on experience in STEM research through a variety of structured activities—including seminars, educational workshops, and field trips. I was trained in scientific writing and speaking, and I prepared written reports on independent research results. That program helped me find what I love to do—agricultural engineering technology.

Since my freshman year, I have had summer internships with the USDA's Natural Resources Conservation Service, where I've gathered basic planning data and assisted in the engineering design of dams, road structures, and terrace systems. I've also made on-site inspections, computed the quantity and cost of project materials, checked designs, and assisted with field surveys.

Whether it's volunteering with the clubs where I am a member or conducting research in the lab, I've had terrific experiences in college. It's a great feeling to wake up every morning and have the opportunity to better myself as a student, family member, friend, and a young African-American male.

Upon graduation, I plan to enroll in graduate school. After receiving a graduate degree, I'd like to find a position with the USDA as an engineer. My dream is to be a State Engineer.

The opportunities in this field are vast. In fact, at the beginning of your program, it's probably best not to set your mind on a specific career. While pursuing your degree, more than likely you will find the part of this field that interests and excites you the most. I know, because that's the approach I took.



## Brad Kruse

Dyersville, Iowa

Iowa State University, *Agricultural Systems Technology*, BS, 2014, currently pursuing MS in *Industrial and Agricultural Technology*

Enjoys the outdoors; trying new things; and working on mechanical, electrical, and woodworking projects that require attention to detail

“An academic advisor in the ABE department really listened to what I was interested in, what I wanted to do, and where I wanted my degree to take me. She recommended AST, and four years later, I still agree with her suggestion!”

During my final year of high school, I made my one and only college visit—to Iowa State University. I went to the information session, took the campus tour, had lunch at the dining center, and met with an academic advisor. That meeting clinched my decision to attend ISU and major in AST.

I’m a concurrent degree student; I started a master’s program while finishing my undergraduate courses. My graduate study is Industrial and Agricultural Technology with a focus on AST. After graduation, my dream is to join a company in a technical position and later move into management or a support role. I want to fully understand the way a company and its products function—and be part of a team that develops innovative products for the ag industry.

So far, I’ve had three internships and one study abroad experience—all remarkable and irreplaceable. My first internship, with Kuhn North America in Brodhead, Wisconsin, allowed me to be an “engineering explorer” in three different departments—product design, product



# Internship? Travel? Must Do!

test, and product management—each for one month. This was my first experience working in the agricultural equipment industry, and I loved it! I was able to help solve real problems, learn about the capabilities of the products, and see that there was a big future for someone with an AST degree.

My second internship—with Kinze Manufacturing in Williamsburg, Iowa—was a May-to-December stint, necessitating that I take a semester off. As a test engineering intern, I worked closely with design and test engineers and technicians. The data I collected, the recommendations I proposed, and my completed projects were used to make data-driven decisions on new product development. Again, I was very aware of the opportunities available to individuals with my interests and degree program.

Finally, I worked at CNH in Burlington, Iowa, as a proving grounds intern for construction equipment products. I had no experience in this field, which made it terrific! The work varied—from collecting data on test machines to gathering customer’s responses to new products, and anything in between. I learned how to use sensors and data acquisition systems and how to operate a lot of equipment.

I also studied abroad in Brazil, focusing on agricultural systems and technology adoption. Through Rio de Janeiro, Minas Gerais, and São Paulo, I experienced the culture of the largest coffee-producing country of the world. I visited farms—from one hectare to thousands of hectares—of coffee, sugarcane, carrots, garlic, and more. This was an amazing experience and hopefully the first of many international journeys for me.

I enjoy stepping outside my comfort zone, trying something new, and making a difference. I quickly jumped on board when internships and study abroad opportunities were presented. This is also why I actively participate in the Agricultural Systems Technology Club and the College of Agriculture and Life Sciences Ambassadors. These experiences are highlights of my college career.

The technology supporting the ag industry has continued to grow significantly. The opportunities available to students interested in agricultural technology are diverse and rewarding. Yet I still enjoy helping on the family farm—from daily chores to fieldwork. It’s where I came from, and what helped me get to where I am today.



“ I have always had an interest in new agricultural technology. Growing up on the family farm, I was always trying to find new technologies that we could implement.

## Nick Herbig

Central City, Nebraska

University of Nebraska-Lincoln  
*Mechanized Systems Management*,  
minor in *Agronomy*, BS, 2014

Finds time for working  
on classic cars and sports

Ag technology is changing the way we operate the machines—computer monitoring systems, GPS locators, and self-steer programs—allowing tractors and implements to be more precise and more efficient in the use of fuel, seed, and fertilizer. In the future, there may even be driverless tractors that use GPS maps and electronic sensors. Maybe the next advance in farming will be complete electrification of agricultural machines to improve their energy efficiency.

The first class I took specific to my major convinced me that I had made the right choice. You guessed it—it had some technology components!

During a spring break, I studied abroad in Argentina. As a result, I'm very enthusiastic about traveling to see ag in action on a global scale. The culture was awesome, and the agriculture—which is a big part of Argentina's economy—was unique. I loved observing the farming techniques and seeing how grain was moved and stored, given the local conditions.

The infrastructure in Argentina is not quite as advanced as in the United States, which makes it difficult to transport grain. There are miles and miles of roads, of which only half are paved, some expressways, and many privatized tollways. Multilane expressways now connect several major cities, with more under construction, but they are currently inadequate to deal with local traffic, let alone ag transport.

In addition, the railway network was privatized, and thousands of miles of track are now in disuse. Most of the rail lines still in operation are freight-related, but the metro rail network only carries passengers. Fortunately, Argentina has navigable waterways, and these carry more cargo than the country's freight railways!

Argentina is one of the world's major agricultural producers, ranking near the top in exporting beef, citrus fruit, grapes, honey, maize, sorghum, soybeans, squash, sunflower seeds, and wheat. Commercial harvests include oilseeds (mainly soy and sunflower) and cereals (mainly maize, wheat, and sorghum). Cattle-raising has long been a major industry. However, biodiesel has become one of the fastest growing agro-industrial activities. Argentina is also the world's fifth-largest producer of wine, and fine wine production has taken major leaps. There was much to see and learn in Argentina!

My plans for the future are to continue farming. It's what I grew up doing and what I love. It's been my dream since I was a little kid, and I'm lucky to be able to live my dream right out of college. Ever since I can remember, I planned to attend the University of Nebraska—growing up a huge Husker fan, no other school even crossed my mind!—and then return to the farm with new ideas.

Around the farm, I am the go-to guy for just about anything. I've been working on the farm since I could walk, so I know how almost everything works. During summer months, I spend a lot of time maintaining our irrigation systems, which include numerous pivots and flood irrigation.

Because I have such a passion for the farm, I am constantly thinking about things we can do to be more efficient and profitable—what new technology might be viable. It's always satisfying seeing one of my ideas work perfectly, but it can also be the biggest frustration when the idea needs more effort!





“What led me to an undergraduate degree in ATM? My curiosity for how things work! The variety of hands-on courses that turn classroom learning into hands-on applications! The wide range of courses available! The choices tailored to my interests and goals!

I balanced my technical interests with several business courses. One semester, I was enrolled in an 8:00 a.m. welding class and went straight to an organizational behavior class afterward. I changed out of my welding shirt, fixed my hair, and wiped the soot off my face before I hopped on my bike and headed for the business campus. The two courses were opposites, but I loved them both! I knew I had found the degree program that fit me!

## Kristen Chonowski

Peoria, Illinois

University of Illinois at Urbana-Champaign  
Technical Systems Management,  
BS, 2010

Fires up on yoga, hiking,  
photography, and travel

In today's job market, a good GPA is not always enough. Participation in studies abroad, internships, clubs, and sports sets you apart. They give your résumé personality! There can be concerns about travel costs or about graduating on time, but scholarships are available, and you can work with the study abroad office and your department to ensure enrollment in courses that allow on-time graduation. Obstacles are not insurmountable, and the experience is incredible!

I studied abroad for a year at the University of Wollongong, New South Wales, Australia—my best college experience, hands down. I made life-long friends, and I learned how the other side of the world lives. I took many courses that counted toward my degree, as well as some electives that were only available at UoW. And living just a 15 minute walk from the ocean beach was quite a change from the cornfields of Illinois!

Internships are important, too. I did a summer stint in technical marketing with Caterpillar, Inc., in Peoria, Illinois. I was given meaningful work, and I visited Caterpillar plants and distributors around the Midwest. The internship provided solid experience and clued me in about what to expect with my first job out of college.

I found my first job attending a UI career fair.

Want some advice? Dress the part on job fair day, and do the homework! Typically, companies post a brief description of the corporate organization and the jobs or internships available on the fair's website. Spend time reviewing this site. Rank the companies and jobs of interest to you, and do extra research on the top two or three. Check out the company websites, especially the “recent news” sections.

On the day of the fair, don't go to your top-ranked companies first. Instead, work out your nerves with a few companies of lesser interest, so you'll be more relaxed when you approach your top company. Based on my recent experience on the employer's side, students who attend toward the start or end of the fair tend to be most memorable. However, be cautious about waiting until the end, as some companies pack up early!

At Omron Automation & Safety in Schaumburg, Illinois, I was recently promoted from product engineer to product marketing manager of sensors, overseeing the United States, Canada, Mexico, and Latin America. Time management and prioritization are keys to success in this position, and in others like it. Because I work at an international company, my job can involve travel—to Japan last year and to Europe this year.

I would love to be a travel journalist or photographer, which would allow me to tell stories, through words and pictures, about different people and cultures. But I am very happy in my current position—working hard, continuing to improve my photography skills, training for a sprint triathlon, and someday my husband and I hope to start a family.



“I didn’t grow up on a farm, but I’ve always had an interest in agriculture, so ag mech was the right major for me. Real-world applications of engineering principles, working with technology, and getting my hands dirty—it’s the perfect fit!



Clemson University was the only college I applied to. Because the ag mech courses genuinely interested me, studying was never a burden. Whether it was working in the shop, reading in the lounge, taking a trip, or sitting around a backyard bonfire, the college experience was terrific!

My college years were filled with great friends and terrific faculty, learning experiences and travel. “Creative Inquiry” classes allowed me to work on special projects, such as retrofitting a tractor with auto-steer for use in a precision ag class and modifying a hay mower for research.

Every year, students from Clemson attend the Sunbelt Ag Expo in Moultrie, Georgia, which is organized by campus clubs. The Expo showcases the future of agriculture. From the first four-row and six-row cotton picker demonstrations and self-propelled peanut combines to the introduction of the first commercially available picker equipped with an on-board module builder and breakthrough research on new crop varieties, the Expo has always been the place to see the latest ag technology.



I was able to intern with Monsanto for two summers, and I loved everything about farming research—from small 40-foot plots to an acre or two—handling every aspect from planting and plot maintenance to harvest. Gettin’ down and dirty!

Just for fun, last spring a few of us seniors in ag mech and two faculty members drove across the state to Society Hill, South Carolina—a historical town—and stayed in a cabin on the Big Pee Dee River. We set limb lines for catfish, cooked a wild hog, went bow fishing, and had an awesome experience.

And where fun is concerned, it goes without saying how amazing the experience of a Clemson football game is! Clemson Tigers are fierce and passionate competitors. From the classroom to the stadium, Tigers play to win, and we are a tight-knit group.

The academics are challenging, but that’s what makes an ag mech degree valuable.

Graduates are equipped with the skills, adaptability, and top-quality education they need to take on whatever challenges they encounter. My studies definitely prepared me for employment. From precision ag and machinery management to crop classes, my education gave me the tools I needed to enter the workforce.

Ag mech is one of the fastest growing majors, with one of the highest job placement rates.

Now that I’ve graduated, I’m ready to settle into my career. I’m employed as a sales intern with Helena Chemical, one of the nation’s foremost distributors of crop protection and crop production inputs and services for the ag, turf and ornamental, forestry, aquatics, and vegetation management markets. I’m interning between two locations in South Carolina—one in Orangeburg at a fertilizer plant and the other in Cameron at a sales office and distribution warehouse.

When I’m not working, I absolutely love to hunt, mostly because it means being outdoors, away from cell phone service and other distractions—no one but me and God. Someday, I’d like to buy as much land as I possibly can, build a house, and then raise a family. With a successful career at Helena, I hope to be able to hunt, fish, and farm on my own land. That’s my dream.

## Blake Watkins

Hartsville, South Carolina

Clemson University

*Agricultural Mechanization and Business*, minors in *Agribusiness and Crop/Soil Environmental Sciences*, BS,

May 2014

Avid fisherman and deer and duck hunter

“ I’ve always had a strong passion for agriculture, mechanics, and technology. Initially, I didn’t know which area was for me, but I knew that if I pursued agricultural technology management, I couldn’t go wrong!



## Zachary Winkel

Beloit, Kansas

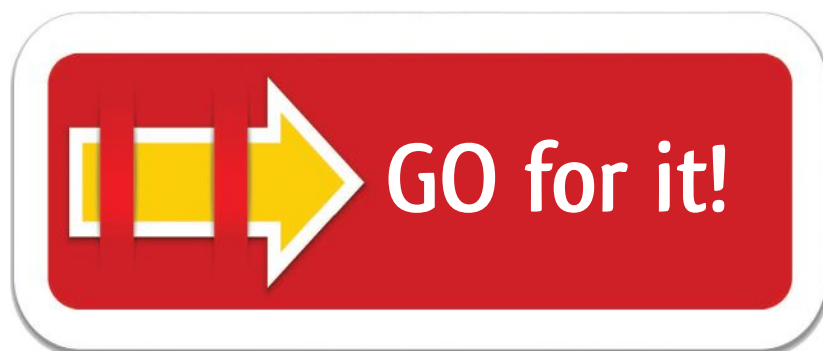
Kansas State University  
*Agricultural Technology Management, BS, 2013*

Loves time with family and friends,  
travel, hunting

The summer after my junior year, I landed an internship with CNH. Without the instructors and an avid advisor pushing me, I don’t think I would have taken that opportunity. As a validation intern, I traveled to New Holland, Pennsylvania, to build and test three prototype self-propelled sprayers, which are now on the market as the Patriot 2240.

While building each sprayer, I worked with every aspect of the machine—engine installation, ground drive and hydraulic systems, sprayer components, and even structural modifications. And each machine was tested for 100 hours—for speed, function, and durability. After the tests were complete, I presented the results to the test manager, who in turn passed the results on to the lead engineers.

I gained a wealth of ag industry knowledge and insight about CNH. And I made important connections with people in the professional ag world. After my internship, I was absolutely positive I had made the right decision with ATM.



As my college career came to an end (reality does set in), my job search began. I spent hours filling out applications and waiting to hear back. During my search, I discovered that CLAAS had exactly the job I wanted. I filled out an online application, and the next day I received a phone call to set up an interview. Shortly thereafter, I was on my way to becoming a full-time CLAAS employee. The knowledge I gained while attending KSU gave me the tools and skills I needed to land that job. And the internship didn’t hurt either!

As a field test technician at CLAAS, I assist in building, testing, and repairing prototype combines, headers, and tractors—to name a few. Every day is different, and that’s what I enjoy

most about the job. It also gives me an opportunity to travel while working with new technology. This past year, I’ve traveled to 17 states for wheat harvests, rice harvests, tillage work, and parts installation. And I spent three weeks at CLAAS headquarters in Harsewinkel, Germany, for training with new prototypes.

I really enjoy being part of a team. After working with a new design, a new technology, or a whole machine, it’s very satisfying to see everyone’s hard work come together to make a great product. CLAAS is the world’s largest family-owned agricultural manufacturing company—something that caught my attention from the start—and that family atmosphere really shows in the workplace.



**Patrick Anderson**  
 Lexington, South Carolina  
 Clemson University, *Agricultural Mechanization and Business*, BS, 2014  
 Busy with church, soccer, sport shooting, mountain biking, reading, cooking

“ I have always been interested in a lifestyle where I could be outside, work with my hands, and help people. Ag mech satisfies me on all counts—it’s outdoors, hands-on, practical, and service-oriented.

A friend in a related field in Clemson’s College of Agriculture, Forestry, and Life Sciences suggested the ag mech major to me. I looked into it, signed up for a few classes, and grabbed hold of the program at the end of my freshman year.

I enjoyed the hands-on labs and the practical approach in the classes, but my first summer internship—working on a farm in Kentucky—confirmed the choice for me. I felt completely in my element with the outdoor work, the interactions with people, and the business aspects of the operation. I worked on a 500-acre spread that supported poultry, cattle, and a garden for a large community-supported agriculture (CSA) membership. CSA has become a popular way for consumers to buy local, seasonal food directly from the farmer.

Here’s how it works: a farmer offers a certain number of “shares” to the public. Typically, a share consists of an assortment of vegetables, but other farm products may be included. Interested consumers purchase a share, through a membership or a subscription, and in return they receive a selection of fresh produce every week or so throughout the season. CSA farms also sell at farmers’ markets.

# TECHNICAL SYSTEMS MANAGEMENT



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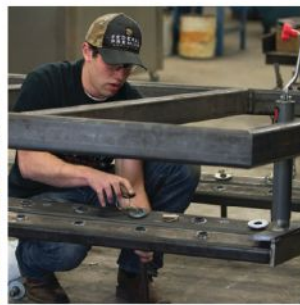
The work was incredibly hard, but it was refreshing to be outside, not plugged into a phone, computer, artificial lighting, air conditioning, etc. Most of all, it was a great exposure to the business side of agriculture and a difficult, yet worthy lifestyle.

My second internship was a trip to France arranged through World Wide Opportunities on Organic Farms. WWOOF links people who want to volunteer on organic farms with growers who are looking for volunteer help. In return for the help, the hosts offer food, accommodations, and opportunities to learn about organic lifestyles. Many countries have national WWOOF groups. In France, I worked at a dairy farm in Normandy, a vineyard in L'Arbresle, and a sheep farm and a sustainable ag research center, both in the Alps. I met many other international travelers, and I had to rely on God and myself because I was traveling alone. Most of all, I learned about the realities of agriculture and the bigger picture of different cultures, countries, and people—who all need to eat.

The highlights of my undergraduate experience were undoubtedly those internships. If I could live my college years over again, I would take advantage of more opportunities like that!



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For more information about undergraduate and graduate courses contact Agricultural Systems Management <http://ASM.missouri.edu> or 1800.995.8503, Leon Schumacher, [schumacherl@missouri.edu](mailto:schumacherl@missouri.edu)

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JD all the way

## Darren Falk

Atchison, Kansas

Kansas State University, *Agricultural Technology Management*, minors in *Biological, Natural Resources, and Environmental Science* and in *Agronomy and Agribusiness*, BS, 2015

Enjoys hunting and fishing, "agvocacy," American and Western history, collecting farm toys, and working on the family farm

“As a person who enjoys working hands-on with agriculture, I was drawn to ATM by the applied and technological aspects of the program.”

I love working with machinery and people, so I especially liked that the ATM curriculum combined technical problem-solving skills with business management principles. As soon as I enrolled at K-State, I joined the ATM Club. At the first meeting, students who had completed internships gave presentations. After hearing what opportunities were available, I knew that I was where I needed to be.

Last summer, I interned with John Deere in Moline, Illinois, as a member of the Seeding Group Product Support team, working with row-crop planters, air seeders, and grain drills. We worked closely with the Dealer Technical Assistance Center (DTAC), which supports dealers by providing technical assistance through the DTAC hotline. Issues of concern are addressed based on DTAC cases, warranty data, and customer feedback. I gathered information on emerging issues and made presentations to cross-functional teams, helping everyone understand the problem and find a way to resolve it. With more complex problems, I visited the customers to see the machine failure first-hand.

For example, I visited a Wisconsin dealer with another product support rep, a design engineer, and some welding engineers to resolve a manufacturing issue with one of the planter lines. We went to a farm where a customer owned two of the machines. After returning to the factory and finding a solution, we went back to the dealer to perform a trial fit-up. While getting dirty and turning a wrench, I took careful notes on the installation procedures.

The final step was to work with a technical writer on installation instructions for the solution kits. I also finalized the bill of materials encompassing everything used in the process. Once the solution was verified, solution kits—improved components, other necessary parts, and installation instructions—were shipped to the dealers who had sold that particular planter. That project allowed me to see how the problem-solving process works—from investigation, to design and manufacturing, to resolution, and finally back to the customer with an improved product.

A second project took me to Montana and the Dakotas, where I performed customer follow-up for nine early-production air seeder carts with another product support rep. I inspected the air carts to verify a list of known issues and identify any new problems. At the same time, I compiled a detailed list of our findings and customer feedback.

The Seeding Group team also participated in a Habitat for Humanity project, and it was awesome to meet the family whose house we were helping to build!

The following summer, a second internship at John Deere had me working on the Harvester Works DTAC team, assisting dealers with technical problems on harvesting equipment. I loved working with farmers to better understand their needs and improve their productivity. I also love volunteering for community activities when I can.

Upon graduation, I plan to enter the John Deere Marketing Rep Rotation Program and continue in customer and product support. Through the rotations, I hope to get experience in other factories and functional areas within the company, and then find a position at the John Deere Marketing Center in Olathe, Kansas.

At John Deere Olathe, I hope to continue to work closely with customers and dealers. That will help me achieve my most important goals—to live back home in northeast Kansas, to work for an agricultural equipment company, to farm alongside my parents, and to be a part of my hometown community.



“ I first looked into ag engineering, but after discussions with my college advisor about the Mechanized Systems Management degree and its potential, I chose MSM and never looked back.

The MSM degree allowed me to gain a broader overview of agriculture and yet have a narrower focus in the option I chose. Since college, my education and experience have allowed me to use my knowledge to benefit Nebraska’s corn farmers.

I lived in a fraternity house during my early college years, and I talked with the senior frat brothers in MSM about the job prospects and flexibility of the degree. They emphasized pursuing internships to broaden the application of what I learned.

A decade later, I have learned that my education didn’t stop with graduation. Through experiences on the job, representing my employer in the United States and abroad, I continue to learn new aspects of agriculture and technology. Friendships made in the fraternity and with fellow students and staff continue today in my role with the Nebraska Corn Board (NCB).

In today’s world, technology surrounds us. In my job, I meet with researchers—helping direct new projects that the NCB has funded—and interact with others in the ag industry on technology apps. I enjoy thinking outside the box on new projects. I also interview college students for internships that the NCB offers, and I’m thoroughly impressed with those who grab the opportunities and take advantage of internships.

## Kelly Brunkhorst

Wauneta, Nebraska

University of Nebraska-Lincoln  
*Mechanized Systems Management, BS, 1995*

Devotes time to bicycling, hiking, and photography



How to find a job? Network!

How do you find a job? **Network!** Grads usually discover this as they begin their internships and careers. Networking steered me to my previous job and to my current position **And think broadly!** We are seeing a great revolution in the adoption of technology within ag, and the rate of this adoption will

accelerate. An ag management degree has broad application to many aspects of ag and technology, which makes it ideal preparation.

I was raised on a diversified farm and ranch operation. Upon graduation, I managed a feed mill for a private swine operation in north central Nebraska. After that, I was a district sales manager for Crow’s Hybrid Corn Company before becoming vice-president of operations and education for the Nebraska Grain & Feed Association. I joined the NCB in 2004.

My responsibilities include research, grant writing, seed industry and purchaser relations, and leadership on issues related to transportation, industrial uses of corn, and domestic and international markets. I also represent the NCB on national research, production, and stewardship committees, in addition to being chosen to participate in two national strategic planning initiatives.

The mission of the NCB is to develop and participate in programs of research, education, market development, and promotion to enhance the profitability and viability, and expand the demand and value of Nebraska corn and value-added corn products—from ethanol to exports, from livestock feed to bio-based plastics. To accomplish this, the NCB collects and disburses the funds generated by a 1/2 of a cent per bushel corn checkoff.

Because I understand the unique structure and environment of Nebraska’s corn industry, I now serve Nebraska’s corn farmers as executive director of the corn checkoff program. Growing up in ag, I always knew I wanted to stay within the industry, so being able to serve the corn producers and ag in general is a great satisfaction for me.

What would my dream job be? We ask this question in every interview, whether for a staff position or an internship. It forces you to future-think—which is as important as networking and taking the broad view. I really enjoy my current job, but my dream job would include warmer weather, cycling, and stopping to grab photos of the landscape!



“Agribusiness management focuses on economics, sales, and marketing in agriculture. It involves finding various answers to a multitude of questions, and then figuring out the best solution overall.

I like problem-solving, and I don't want a simple answer. I like to sit down and look at a problematic scenario from a variety of angles before finding the best solution.

Since I also like hands-on learning, I picked ASM as my second major, and I enjoyed every semester with both sets of coursework. Whether it's shuffling econ stats or working on engines, planters, or sprayers, I've had a blast working through all my classes with other students.

I grew up less than an hour away from Purdue, and I was familiar with the campus from attending football games and FFA events in high school. As high school graduation approached, there was really no other option for me, and I became a Boilermaker through and through. I knew that Purdue has a terrific agriculture department and is tops in ABE.

Before enrolling at the university, I talked to friends who had graduated with ASM degrees from Purdue. Many of them suggested that I complete a dual major. My dad, an ag teacher at my local high school, and my mom, who's a biology and environmental science teacher at the same school, encouraged me to take the double path to graduation, and I highly recommend it. If you have the capability, do more—do as much as you

## Chandler Keown

Flora, Indiana

Purdue University, *Agribusiness Management and Agricultural Systems Management*, BS, 2014

Enjoys coaching football, traveling, and hunting



can—and increase your expertise as a highly marketable individual.

Working on my senior design project, I realized how fortunate I was to have participated in a program that gave me so much in four years. I also participated in the Soybean Innovation Competition with some brothers from my fraternity. Our goal was to redesign the core of a golf ball using soybeans. While working on that project, I realized that ASM had prepared me for a great future.

I also interned in research at Beck's Hybrids in Atlanta, Indiana. I was in a group responsible for planting test plots,

field scouting, and plant pollinating. I had a solo project, too, examining the emergence capabilities of different varieties of soybeans.

And I had a great study abroad experience. From February to June 2013, I lived in Christchurch, New Zealand. I took classes in international trade, marketing research, and environmental economics at the University of Canterbury, as well as an introduction to Maori society, which focused on the indigenous Polynesian people who arrived in New Zealand in several waves of canoe voyages some time between 1250 and 1300. Over the centuries, those settlers developed a unique culture with a rich mythology, distinctive crafts, and performing arts.

Traveling around one of the most beautiful countries in the world, soaking up the culture, and studying their agricultural practices—I will never forget it! I want to continue traveling and see more of the globe.

Finally, I encourage anyone heading off to college to give the Greek system a chance. After choosing ASM, joining a fraternity was one of the best decisions I made.



Living large  
and Greek





# Sushi, anyone?



“My goal has always been to work on the family farm. I wanted a degree in which each class was applicable to my future as a farmer. I knew that AST, with an emphasis in agribusiness, would benefit me best.

The College of Ag and Applied Sciences at Utah State offers many opportunities to learn and grow. Utah State gave me a scholarship, and with an abundance of clubs to join, excellent professors, and opportunities to travel and work on the college farms, who could say no?

In an Electricity in Agriculture class, I realized that I could use what I was learning in everyday life. We didn't discuss theories—it was simply hands-on application. I took away a lot from that class, and the applications I learned have added value to our family operation.

An amazing opportunity came my way while I was at Utah State—I attended the University of Tsukuba in Japan for spring break. Through the College of Ag and Applied Sciences, eleven students were selected to represent Utah State in Tsukuba. We were in Japan for ten days, and we had enough time to do some sightseeing as well, familiarizing ourselves with Japan's mix of ancient and modern culture by visiting some of the earliest temples and contemporary marvels.

The attending students included groups from the University of Bordeaux in France, the University of the Philippines Los Banos, and, of course, the University of Tsukuba. We met and discussed the challenges related to agriculture in our home countries. It was interesting to hear about the different problems and to discuss how those difficulties could be overcome. Each night, our international group went to downtown Tsukuba and had dinner—very tasty!—continuing our conversations over rice, curry, soup, ramen, and sushi. We also visited businesses and research facilities, including the Japan Aerospace Exploration Agency—JAXA—similar to NASA.

We toured a zero-emissions house, where green energy was used and no carbon dioxide was emitted. Many innovative energy-saving technologies were in place, from microwave cooking to solar panels as roof shingles. The technologies that are under development in Japan, especially at the University of Tsukuba, are mind-blowing. One particularly fascinating project involves using nematodes—microscopic worms—to test new developments in medicine.

Upon returning home, the journey caused me to often reflect on some of the big agriculture issues that we face in the United States and the measures that we can take to solve these problems.

For me, travel abroad and within the United States topped off a great four years! I went to Chicago with four students representing the Agribusiness Club at the annual Food Distribution and Research competition, a marketing competition. We devised a way for a Chicago company to retain and recruit employees. It was an opportunity to apply what I had learned in my classes to real-life challenges in the marketplace. The Chicago company liked our plan, and we won the competition!

I am currently seeking employment, and one day I will return home to my family's farm and work with my dad and brother. I enjoy being able to plant in the spring and see the crops harvested in the fall. Every day on the farm is something new and different—and I thrive on change.

## Mason Anderson

Oak City, Utah

Utah State University, *Agriculture Systems Technology*, emphasis in *Agribusiness*, BS, 2014

Take me hunting, fishing, horseback riding, or motorcycle riding!





# Global and civic initiatives



“I take seriously the importance of agriculture to global survival. I also enjoy science, technology, and being outdoors, so I wanted an education that fit my concern for feeding the world and my personal interests as well.



I also wanted to attend the “best of the best,” and after checking out Iowa State’s web page, I knew that the ag systems technology program would provide what I was looking for.

There was so much to commend my undergraduate program. I enjoyed everything about it—with the exceptions of calculus and physics! To add to the positives, I am the first person in my family to go to college. Neither of my parents graduated from high school, so I am extremely appreciative of the opportunities afforded me.

An AST degree is a hands-on degree and covers a broad range of ag technologies. My sophomore summer, I worked as a maize breeder for the USDA’s Agricultural Research Service. While out in the field—hot, sweaty, tired, and covered in pollen—my deep-seated desire to make a positive impact—ensuring that food is available for future generations—was confirmed.

## Ava Haun

Bessemer City, North Carolina  
Iowa State University, *Agricultural Systems Technology*, BS, 2014

Hobbies: Collecting die-cast toy tractors, reading, and volunteering

For two summers, I interned with the USDA’s Natural Resource Conservation Service as a soil conservationist throughout Iowa. I helped establish a high-tunnel garden for display at the 2012 Farm Progress Show, surveyed fields for installation of conservation practices, made conservation maps and plans, and even taught classes for an elementary school field day.

I did not participate in any studies abroad, but I do have international experience. I spent six years as an Apache helicopter mechanic for the United States Army. I served in Iraq, Afghanistan, and many places in western Europe and the United States.

There were a few reasons why I joined the military, 9/11 being foremost. I was a high school sophomore headed to AP biology when a friend stopped me at my locker and told me that a plane just hit the World Trade Center. In class, we refused to do the day’s biology lesson and insisted on watching the news instead—live footage of the second plane hitting the second tower. I knew what that meant for our nation, and I knew that I would do my part—for so many innocent lives lost and our national sense of security shaken.

Of course, joining the service was a way to afford college, too. I grew up in poverty, and my parents had no means to help me or any knowledge of financial aid. As well, there weren’t many jobs in our part of North Carolina, and I felt I had to leave if I ever wanted to get ahead. I chose Army Aviation because I wanted a technical job that I could pursue after military service. I met my husband in Afghanistan, where he was serving as well, and we’ve been married for eight years now.

In addition to my job, I’m very civic-minded. I serve as president of the Heritage Room Museum in Zearing, Iowa, and as co-editor of our community newsletter. For three years, I served the Story County Freedom Flight committee, raising funds to send WWII, Korea, and Vietnam veterans to Washington, D.C., to visit the memorials that stand in their honor.

I love making a positive impact on others, and I feel that everyone can benefit from volunteering. During your college years and beyond, there are many opportunities for giving of yourself.

My plans for the future are to continue working for the Natural Resources Conservation Service as a soil conservationist, to help producers with conservation planning and to ensure the sustainability of our natural resources. I also intend to keep volunteering, doing my part to feed a hungry world.





# CAREER OPPORTUNITIES

**Degree in hand, what can you do?  
Where can you apply?**

## Ag Systems graduates are in high demand.

Depending on qualifications and experience, starting salaries typically range from \$40,000-\$55,000 annually. For more information, check with individual schools regarding their placement records.

## So, what would you like to do? Who could you work for? Here are some ATM-degreed ideas!

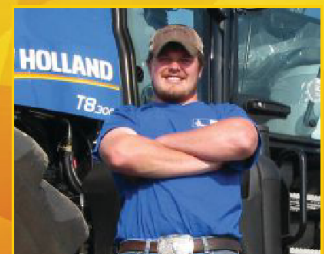
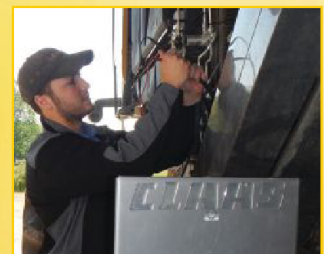
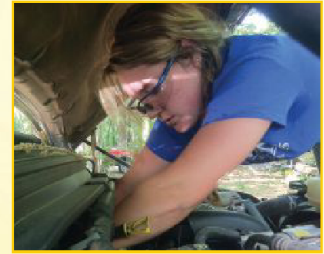
Grain Elevator Manager  
Farm Equipment Dealer  
Plant Production Supervisor  
Irrigation Salesperson  
Soil Conservationist  
Precision Agricultural Specialist  
Reclamation Inspector  
International Ag Development  
Ag Structures Manager  
Vo-Ag Teacher (with certification)  
Irrigation Management  
Territory Service Manager  
Crop Specialist  
Farm Appraiser  
Energy Advisor  
Petroleum Sales  
Water Quality Specialist  
Control Systems Manager  
Farm Facilities Manager  
Safety Specialist  
Product Testing  
Marketing Supervisor  
Veterinary Technician  
Loan Appraiser  
Farm Manager/Operator  
Engineering Technician  
Food Processing Plant Manager  
Parts Operations Supervisor  
Service Representative  
Ventilation System Designer  
Waste Management Tech.  
Golf Course Manager  
Environmental Consultant  
Application Specialist  
Training Manager  
Research Technician

Integration Manager  
Construction Supervisor  
Facilities Manager  
CAD Programmer  
County Extension Director  
Agricultural Imports Inspector  
Grove Management  
Quality Control Manager  
Cooperative Extension Specialist  
Design Technician  
Bank Field Representative  
Experimental Mechanic  
Dairy Equipment Specialist  
Network Engineer  
Operations Manager  
Program Technician  
Structures Specialist  
Professor  
Site Superintendent  
Soil Scientist  
Water Management Specialist

## Prospective Employers: "Short list" of companies that employ ATM grads

Aerotech  
Ag Reliant  
Allen Bradley  
AGCO  
Ag-Chem Equipment Co.  
Archer Daniels Midland  
Banner Engineering  
Blue Bell Creameries, Inc.  
Bobcat  
Bunge  
Cargill  
Case-New Holland  
Caterpillar  
Cenex-Land-O-Lakes  
CLAAS  
ConAgra  
Consolidated Grain and Barge  
Cummins Engine  
Dairyland Seeds  
Deere & Company  
DeKalb-Pfizer Genetics  
Detroit Diesel  
Dole Fresh Vegetables  
Dow AgroSciences  
Dupont/Pioneer  
Eaton Corp.  
Eli Lilly  
EPA  
FMS  
Farm Credit Service

Farmland Industries  
FieldStar  
Frito-Lay  
Gavilon  
Gehl  
General Electric  
General Mills, Inc.  
Gilardi's Frozen Foods  
Government agencies  
Growmark, Inc.  
Helena Chemical.  
Hershey Foods  
Hog Slat, Inc.  
Holt Agribusiness  
Hormel Foods Corp.  
IBM  
Ingersoll Rand  
John Deere  
Kinze Mfg. Co.  
Koehler  
Kraft Foods  
Kubota Tractor Corp.  
Landoll Corp.  
Monsanto  
Morton Buildings  
Mustang Tractor  
National Instruments  
NGL Energy Partners  
Omron Industrial Automation  
Parker Hannifin  
Peace Corps  
Pella Corp.  
Pillsbury  
Pinnacle Food Group  
Pioneer Hi-Bred  
Polaris  
Purina  
Quaker Oats  
R and G Ag Services  
Rain Bird  
Raven Industries  
Rockwell Automation  
SICK  
Simplot  
Spreckles Sugar Co., Inc.  
Soil Conservation Service  
Spraying Systems, Inc.  
Sukup Mfg. Co.  
Techmark  
The Dial Corp.  
Toro  
Tyson Foods, Inc.  
USDA  
Valmont Industries  
Vermeer





## SEARCHING FOR A SCHOOL?

Schools listed below have programs in agricultural systems and technology. Contact them directly for more information. Many of these programs are administered by Agricultural and Biological Engineering Departments.

### California Polytech. State University

Agr. Sys. Mgmt. Program  
San Luis Obispo, CA 93407  
Phone: 805-756-2378  
[www.brae.calpoly.edu](http://www.brae.calpoly.edu)

### California State Polytech. University

Landscape Irrigation Science Program  
3801 W Temple Ave  
Pomona, CA 91768  
Phone: 909-869-2084  
[www.csupomona.edu/~lis/ctilt.html](http://www.csupomona.edu/~lis/ctilt.html)

### California State University - Fresno

Plant Science Dept.  
Mail Stop AS-72  
College of Agr. Science & Tech.  
Fresno, CA 93740  
Phone: 559-278-5724  
[www.csufresno.edu](http://www.csufresno.edu)

### Clemson University

Agr. Mech. & Business Program  
221 McAdams Hall  
Clemson, SC 29634-0312  
Phone: 864-656-4077  
<http://virtual.clemson.edu/groups/agbioeng/>

### Dalhousie University

Integrated Environ. Mgmt.  
Faculty of Agriculture  
39 Cox Rd, PO Box 550  
Truro, NS, Canada B2N 5E3  
Phone: 902-893-6710  
[www.dal.ca/iem](http://www.dal.ca/iem)

### Fort Valley State University

Agr. Eng. Tech. Program  
Ellison Bldg.  
Fort Valley, GA 31030-4313  
Phone: 478-825-6275  
[www.fvsu.edu/academics/agriculture/](http://www.fvsu.edu/academics/agriculture/)

### Iowa State University

Agr. Sys. Tech. Program  
102 Davidson Hall  
Ames, IA 50011-3080  
Phone: 515-294-1434  
[www.abe.iastate.edu](http://www.abe.iastate.edu)

### Kansas State University

Agr. Tech. Mgmt. Program  
129 Seaton Hall  
Manhattan, KS 66506-2906  
Phone: 785-532-5580  
[www.bae.ksu.edu/](http://www.bae.ksu.edu/)

### Mississippi State University

Agr. Eng. Tech. & Bus. Program  
PO Box 9632  
Mississippi State, MS 39762  
Phone: 662-325-3280  
[www.abe.msstate.edu/](http://www.abe.msstate.edu/)

### Montana State University

Construction Eng. Tech. Program  
Bozeman, MT 59717  
Phone: 406-994-6121  
[www.coe.montana.edu/ce/](http://www.coe.montana.edu/ce/)

### North Carolina State University

Agr. & Environ. Tech. Program  
PO Box 7625  
Raleigh, NC 27695-7625  
Phone: 919-515-2694  
[www.bae.ncsu.edu/bae](http://www.bae.ncsu.edu/bae)

### North Dakota State University

Agr. Sys. Mgmt. Program  
PO Box 5626  
Fargo, ND 58105-5626  
Phone: 701-231-7265  
[www.ageng.ndsu.nodak.edu](http://www.ageng.ndsu.nodak.edu)

### Ohio State University

Agr. & Const. Sys. Mgmt. Program  
590 Woody Hayes Drive  
Columbus, OH 43210-1057  
Phone: 614-292-9338  
[www.fabe.osu.edu](http://www.fabe.osu.edu)

### Penn State University

Agr. Sys. Mgmt. Program  
250 Ag. Eng. Bldg.  
University Park, PA 16802  
Phone: 814-865-7792  
[www.abe.psu.edu](http://www.abe.psu.edu)

### Purdue University

Agr. Sys. Mgmt. Program  
225 S. University Street  
West Lafayette, IN 47907  
Phone: 765-494-1172  
[www.purdue.edu/abe](http://www.purdue.edu/abe)

### Sam Houston State University

Agr. Eng. Tech.  
Box 2088 Huntsville, TX. 77341  
Phone: 936-294-1216  
[www.shsu.edu](http://www.shsu.edu)

### South Dakota State University

Agr. Sys. Tech. Program  
PO Box 2120  
Brookings, SD 57007  
Phone: 605-688-5141  
<http://abe.sdstate.edu/>

### Southern Illinois University

Plant, Soil & Agr. Sys.  
Carbondale, IL 62901  
Phone: 618-435-2496  
[www.siu.edu/siuc](http://www.siu.edu/siuc)

### Tennessee Tech. University

Agr. Eng. Tech. Program  
South Hall – Box 5034  
Cookeville, TN 38505  
Phone: 931-372-3019  
[www.tntech.edu/agriculture/](http://www.tntech.edu/agriculture/)

### Texas A&M University

Agr. Sys. Mgmt. Program  
Scoates Hall  
College Station, TX 77843  
Phone: 979-845-3931  
<http://baen.tamu.edu/>

### Texas State University

Agribusiness Mgmt. Systems  
601 University Drive  
San Marcos, TX 78666  
Phone: 512-245-2130  
[www.ag.txstate.edu/degrees/undergrad.html](http://www.ag.txstate.edu/degrees/undergrad.html)

### University College Dublin

BAgrSc  
Belfield, Dublin 4, Ireland  
Phone: 353-1-7167777  
[www.ucd.ie/agfood/undergraduateprogrammes/](http://www.ucd.ie/agfood/undergraduateprogrammes/)

### University of Florida

Agr. Operations Mgmt. Program  
120 Frazier Rogers Hall  
PO Box 110570  
Gainesville, FL 32608  
Phone: 352-392-1864  
[www.agen.ufl.edu](http://www.agen.ufl.edu)

### University of Idaho

Agr. Sys. Mgmt. Program  
Moscow, ID 83844-0904  
Phone: 208-885-6182  
[www.uidaho.edu/cals/academics/undergraduatestudies](http://www.uidaho.edu/cals/academics/undergraduatestudies)

### University of Illinois

Tech. Sys. Mgmt. Program  
1304 W. Pennsylvania Ave.  
Urbana, IL 61801  
Phone: 217-333-3570  
[www.age.uiuc.edu/](http://www.age.uiuc.edu/)

### University of Kentucky

Tech. Sys. Mgmt.  
128 C. E. Barnhart Building  
Lexington, KY 40506  
Phone: 859-257-3000  
[www.bae.uky.edu/BAEHome.asp](http://www.bae.uky.edu/BAEHome.asp)

### University of Minnesota-Crookston

Agr. Sys. Mgmt. Program  
109 Hill Bldg., 2900 University Ave.  
Crookston, MN 56716  
Phone: 218-281-8101  
[www.umcrookston.edu/academics/](http://www.umcrookston.edu/academics/)

### University of Missouri

Agr. Sys. Mgmt. Program  
207 Agr. Eng. Bldg.  
Columbia, MO 65211  
Phone: 573-882-2126  
[www.cafnr.missouri.edu/academics/ag-sys-mgt.php](http://www.cafnr.missouri.edu/academics/ag-sys-mgt.php)

### University of Nebraska

Mech. Sys. Mgmt. Program  
223 L W Chase Hall  
Lincoln, NE 68583-0726  
Phone: 402-472-1413  
<http://msym.unl.edu/>

### University of Puerto Rico

Mechanized Tech. Agr.  
PO Box 9030 Mayaguez Campus  
Mayaguez, PR 00681-9030  
Phone: 787-834-2575  
[www.uprm.edu](http://www.uprm.edu)

### University of Wisconsin-River Falls

Agr. Eng. Tech. Program  
164 Agr. Eng.  
River Falls, WI 54022  
Phone: 715-425-3985  
[www.uwrf.edu/ag-engineering/](http://www.uwrf.edu/ag-engineering/)

### Utah State University

Agr. Sys. Tech. Program  
2300 Old Main Hill  
Logan, UT 84322-2300  
Phone: 435-797-2230  
<http://www.aste.usu.edu/>

### Washington State University

Agr. Tech. & Mgmt. Program  
Pullman, WA 99164-6243  
Phone: 509-335-4562  
[www.cahnrs.wsu.edu/academics/majors/](http://www.cahnrs.wsu.edu/academics/majors/)



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**TEXAS A&M UNIVERSITY  
BIOLOGICAL & AGRICULTURAL ENGINEERING  
DEPARTMENT  
ASSISTANT/ASSOCIATE PROFESSOR AND EXTENSION  
SPECIALIST (IRRIGATION ENGINEERING)**

This 12-month, non-tenure track position (70% Texas A&M AgriLife Extension, 30% Texas A&M AgriLife Research) focuses on implementation of an innovative Extension and applied research irrigation and water management program addressing the needs of agricultural producers and groundwater conservation districts with emphasis on the Northern High Plains. Work location is the Texas A&M AgriLife Research & Extension Center, Amarillo, Texas.

**Position Responsibilities:** Implement an innovative extension/applied research program focusing on irrigation and water resource management, with emphasis on the needs of agricultural producers and groundwater conservation districts in the Northern High Plains of Texas. Responsible for development and delivery of educational programs on irrigation technologies, irrigation scheduling, water quantity and conservation, water reuse, optimizing limited water resources, and use of remote-sensing data to inform irrigation management. Conduct and report irrigation and water management demonstrations, evaluate limited irrigation production systems, evaluate grower usage of conservation techniques, and provide professional development opportunities to county agents, program specialists, and private industry practitioners. Contribute actively to regional water planning efforts. Develop and disseminate extension education materials using conventional and web-based communication technologies.

Expectations include publishing of research results in peer-reviewed journals and program support through extramural funding. Service to the department, center, agencies, water districts, water-planning groups, and professional societies is expected.

Develop a working relationship with the irrigation industry and participate in industry and professional associations.

**Qualifications:** Required, by date of appointment, a Ph.D. in biological, agricultural, or an equivalent engineering discipline with an interest in water management. Experience with irrigation practices used in the Great Plains region, field research, and in organizing and conducting Extension programs, particularly in collaboration with county agents. Ability to write grant proposals to secure external funding. Evidence of publishing in peer-reviewed journals. Participation in professional societies. Candidates eligible for hire at the associate professor level will have a demonstrated history of success in external funding of Extension and research programs. The candidate should have a professional engineering license or be capable of pursuing one in the state of Texas. Effective verbal and written skills, interest and capability to work both independently and as a multidisciplinary team member.

**Application Procedure:** Application review begins September 1, 2014 and will continue until position is filled. Position is available immediately. Submit application at <http://greatjobs.tamu.edu> (Search for NOV # 07848). Send an e-mail notice of application submission to: Dr. Dana Porter, [d-porter@tamu.edu](mailto:d-porter@tamu.edu), Search Committee Chair. E-mail only applications cannot be accepted.

*Texas A&M AgriLife is an equal opportunity employer.*

**TEXAS A&M UNIVERSITY  
BIOLOGICAL & AGRICULTURAL ENGINEERING  
DEPARTMENT  
COLLEGE STATION, TEXAS  
INSTRUCTIONAL ASSOCIATE PROFESSOR**

**Appointment:** 100% Texas A&M University, 10.5 month appointment, non-tenure track

**Date Position is Available:** January 1, 2015

**Position Responsibilities:** This position will provide instruction for the Agricultural Systems Management (AGSM) curriculum as offered by the Biological and Agricultural Engineering Department. The AGSM degree prepares students for employment in management, sales, finance, safety careers in food and agriculture and other related industries. The individual hired will be expected to teach three courses per semester on topics including (but not limited to) power and energy applications, industrial safety, agricultural processing, and irrigation. The individual will join a faculty that has complementary expertise, and the individual's course assignments will be made as appropriate to meet overall departmental instructional needs. This position is expected to devote 90% time to instruction (including advising students) and 10% time to service within the department, university and professional organizations. Continual efforts to improve course content, instructional methods and the overall educational experience for AGSM students are expected. Course delivery via distance learning is not a current requirement, but is an anticipated need in the future. Supervision of graduate students is not a requirement for this position, but would be acceptable. This announcement targets hiring at the Instructional Associate Professor level, but hiring may occur at any rank, depending on the qualifications and experience of the preferred candidate.

**Qualifications:** The candidate is required to have, by date of appointment, a doctorate in an appropriate discipline. Acceptable disciplines include engineering, agricultural systems management, business or technology. Experience in instruction of agricultural systems management or a similar degree at a B.S. granting institution is required for hiring at the Associate level. Experience with instructional delivery using electronic media and distance learning techniques is desired. Industrial experience as a manager, supervisor or safety officer is desired. Effective verbal and written skills in English are required.

**Application Process:** Candidates should complete an application through the on-line system utilized by the Texas A&M College of Agriculture and Life Sciences: <http://greatjobs.tamu.edu> (Search for NOV # 07851). Application for this position requires several documents to be submitted including curriculum vita/resume, list of references, application letter, and transcripts. Please send an email notice of application submission to: Dr. Zivko Nikolov, [znikolov@tamu.edu](mailto:znikolov@tamu.edu), Search Committee Chair. E-mail only applications cannot be accepted. Applications will be reviewed beginning September 1, 2014 and continue until the position is filled.

Texas A&M University's Biological and Agricultural Engineering Department embraces diversity in its people and programs and values the educational and workplace enrichment that diversity brings. We therefore encourage applicants who would add to that dynamic environment.

Most job openings of interest to ASABE members are now posted online. You will find many listed in the ASABE online Career Center at <http://www.asabe.org/membership/asabe-career-center.aspx>.





**FACULTY POSITION IN  
AGRICULTURAL  
ENGINEERING OR AGRICULTURAL  
SYSTEMS MANAGEMENT**

**POSITION:** Assistant/Associate Professor of Agricultural and Biological Engineering

**RESPONSIBILITIES:** Responsibilities include research and teaching benefiting agriculture in general and Indiana agriculture specifically, and developing a strong, externally funded program resulting in internationally-recognized, high impact scholarship. Possible areas of research specialization include: precision agriculture sensors, and robotic controls for improving production of row-crop, biomass, and/or horticultural crops; integration of remote sensing using unmanned aerial systems and spatial data with other farm management tools; implement automation and control; material application technologies; protocol development to ensure optimal operational efficiency during production, transport, storage, and processing; and the application of information technology for machine and facilities optimization. The successful candidate will engage with industry, governmental agencies, non-governmental organizations, and other stakeholders to find, develop and promote innovative and effective technologies. Improved decision making through utilization of data available from research, public sources, and private sources such as UAVs and farm machinery is expected through collaborations with others such as plant scientists, soil scientists, and economists. The candidate will develop an innovative teaching program for undergraduates and graduates in Agricultural Systems Management &/or Agricultural Engineering which might include the research topics above. Opportunities to develop a graduate level course also exist. This is an academic year, tenure track, research and teaching position.

**QUALIFICATIONS:** Applicants must have a Ph.D. in Agricultural and Biological Engineering, Agricultural Systems Management, or a related technical discipline. Excellent oral and written communication skills are a must; teaching and research experience and experience in production agriculture or industry are highly desirable. Eligibility to be licensed as a professional engineer preferred.

**CLOSING DATE FOR APPLICATIONS:** Review of applications will begin November 1, 2014 and continue until the position is filled.

**APPLICATION MATERIALS:** Letter of interest, resume, official academic transcripts, statement of research and teaching philosophies, and names, addresses and phone numbers of three references. Applications should be submitted electronically to [abejob@ecn.purdue.edu](mailto:abejob@ecn.purdue.edu). Background check required.

**CONTACT:** Dr. Dennis Buckmaster, Search Committee Chair; Email: [abejob@ecn.purdue.edu](mailto:abejob@ecn.purdue.edu) or phone (765) 494-1162. Before applying, please read the full position description located here: <http://www.purdue.edu/ABE>.

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*Resource* is published six times per year: January/February, March/April, May/June, July/August, September/October, and November/December. The deadline for ad copy to be received at ASABE is four weeks before the issue's publishing date.

For more details on this service, contact Melissa Miller, ASABE Professional Opportunities, 2950 Niles Road, St. Joseph, MI 49085-9659, USA; 269-932-7017, fax 269-429-3852, [miller@asabe.org](mailto:miller@asabe.org), or visit [www.asabe.org/resource/persads.html](http://www.asabe.org/resource/persads.html).

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