AGRICULTURE, FOOD SYSTEMS, AND NATURAL RESOURCES

ALUMNI NEWS

2013-14

Student studies dust issues in oil patch areas

North Dakota's oil patch is an amazingly busy place. On the small country roads, vehicles of all types seem to be nearly everywhere.

So are the clouds of dust they kick up from the gravel roadways.

A new research project at NDSU is taking a first look at the potential impact. For the past two summers, graduate student Jessica (Meissner) Creuzer, has collected dust and water samples from wetlands along some of the roads, looking for answers.

"There is a ton of traffic because of oil development," Creuzer said. "But, there is very little research looking at the impact of road dust on the environment."

Creuzer wants to change that.

>> CONTINUED INSIDE

NDSU NORTH DAKOTA STATE UNIVERSITY

Common scenes on gravel roads in western North Dakota.

'DUST ISSUES' FROM COVER >>

Triggered by concerns voiced by local residents to NDSU Research Extension Centers, the research is being conducted under the supervision of Christina Hargiss, assistant professor of practice in the School of Natural Resource Sciences.

"Jessica's work is very important because it addresses a critical issue in our state," Hargiss said. "This is one of the first studies to quantify dust and provide data on potential impacts to water quality, soil and vegetation."

The worry is, over time, the dust could possibly cause significant problems. A coating of dust on vegetation could prevent sunlight from reaching the plants, causing decreased growth. In the water, more sediment might be created, potentially meaning less biota and fewer plant and animal species.

In her study, Creuzer put dust collectors at 20 sites in western North Dakota – 10 in what is considered the high-impact area near Stanley and New Town, and 10 were placed in a low-impact area southwest of Minot, for comparison purposes.

From April to October, she took dust samples from three collectors at each site located 10, 40 and 80 meters from the roadway. Water samples were collected from May to September. The data is still being studied, but a preliminary look gives a strong indication the dust has an effect near the roadways.

"Our initial results show very increased dust-loading at the high-impact sites. It's two to three times higher in the oil development area over the low-impact areas," Creuzer said, suggesting more study is needed. "The 10-meter area is the most affected. The dust really falls off quickly, so if someone picks up this research I suggest they focus on the first 30 meters from the road. It's obvious that something is going on, but the only way we'll find out more is if other researchers expand on this project."

While she conducts her leading research, Creuzer is learning important lessons. "I hope this project gives Jessica an understanding that the first step to resolving natural resource issues is to understand the problem through research, and from there you can make appropriate management decisions," Hargiss said.

Creuzer, who is from Dent, Minn., anticipates earning her master's degree in natural resources management in August. The research project is funded through the North Dakota Department of Health.

Student intern looks at new frontier in agriculture

His future may, quite literally, be up in the air. NDSU sophomore Tate Petry is quickly becoming an expert in the agricultural possibilities for unmanned aerial vehicles, commonly known as UAVs.

Petry is a marketing intern for Titan Machinery Inc. in Fargo, where one of his duties is to explore the regulations, pitfalls and potential uses for UAVs.

"I'm trying to determine where Titan fits in that market – looking at how or where we could get involved and what solutions would be most beneficial for the customers we already serve," explained the agricultural systems management major from Ada, Minn. "This is definitely a new frontier. It's cutting-edge and there's a lot of potential."

His work involves pouring over Federal Aeronautics Administration regulations, gathering information about all aspects of UAVs and researching how the small remotely controlled aircraft might be applied in agriculture. Most authorities anticipate their three major uses are in scouting, mapping and, possibly, aerial spraying.

"The potential use of unmanned aircraft in production agriculture is creating great excitement in our industry," said Mike Weisenberger, Titan's market representation manager, who is supervising Petry's work. "The information Tate is gathering will be a great resource in evaluating whether Titan Machinery may someday provide solutions to our customers in the area of collecting agricultural production data with UAVs."

The devices are small, perhaps three to five feet across. Many look like miniature helicopters or airplanes. Often they weigh only eight to 15 pounds.

"For UAVs, there are a lot of FAA regulations right now. We're operating under 1980s-era radio-controlled rules," said Petry. "That means now we can't fly these UAVs over 400 feet, and they have to be in line of sight."

Petry said there also are complicated issues regarding when a UAV operator needs a commercial pilot's license. He notes new FAA regulations are expected to allow people to train to fly the vehicles without a costly license, and there also are questions about who will have access to the large amount of data the UAVs collect. The FAA may not finish the new regulations until 2016.

"It does give us time to determine what we'll do, but Titan Machinery will likely be involved along the way, testing and combing through FAA rules, different aircraft, data processing and possibly working with universities and Grand Sky to ensure we offer the best, most reliable solution for producers when the time comes for UAVs to be integrated into our airspace."

While he works, Petry is learning the latest information, making the internship memorable and worthwhile for all parties.

"Internships are extremely valuable for a student," said Weisenberger, an NDSU alumnus who earned his bachelor's degree in agricultural mechanization. "A student gains professional experience, creates networking opportunities, clarifies their career goals and develops a competitive advantage when seeking employment after graduation."

At the same time, Titan benefits from Petry's contributions. "Often, the intern brings new energy, promotes technology and shares their innovative and creative ideas." Weisenberger said. "It's also an excellent way for companies to attract and retain the best and the brightest students who could contribute to the company's future."

NDSU alumna trains equine 'stars'

The scene seems right out of Hollywood. Hundreds of adoring fans gather around, their cameras at the ready. It's a moment to be cherished for a lifetime.

At the center of all the attention stand the majestic and world-renowned Budweiser Clydesdales. Ever close by is NDSU alumna Amy Trout.

"I've got the best job in the world," said Trout, BS '00, animal and range sciences. "The horses are spectacular. It's truly the equivalent of traveling with a rock star band. Everyone wants to get to know you, meet the horses and be part of your world. It's really rewarding."

"The horses are spectacular. It's truly the equivalent of traveling with a rock star band. Everyone wants to get to know you, meet the horses and be part of your world. It's really rewarding."

At more than six feet tall at the shoulder and weighing in excess of 2,000 pounds, adult Clydesdales are both amazing and memorable. It's a sight and experience Trout loves to share as a supervisor and trainer at Grant's Farm, the Budweiser Clydesdale Stable near St. Louis.

In essence, she runs the prep school for the Anheuser-Busch-owned Clydesdales, a herd of more than 200 animals housed at locations across the country. "I get the babies once they are weaned from their moms and I do all the basic farm manners training, if you will, until they're around four years of age," Trout explained about her work at Grant's Farm. "I then send them off to training farms where they actually put the harness on them and start driving them."

Grant's Farm is the 281-acre ancestral home of the Busch family. A major tourist attraction, the farm has had more than 24 million visitors since it opened to the public in 1954. The stables are home to more than 50 Clydesdales.

Trout began working for Anheuser-Busch in 2002, as a handler for the Clydesdale team based in San Antonio, Texas, and later with another team out of Merrimack, N.H. For eight years, Trout's suitcases were always packed, as she spent about 320 days per year on the road showcasing the animals.

In 2010, she was promoted and transferred to Grant's Farm, and she adopted a more normal workday. "Our horses have a strict routine. They're fed every day at 7 a.m.," Trout said, noting that's followed by exercise, grooming, bathing and event preparation. "We keep their routine consistent. It keeps them happy and healthy."

Recently, however, Trout has been traveling again, participating in a special four-month trip with the Clydesdales across China. In a way, she serves as an ambassador.

"The reason we're here is because 2014 is the 'Year of the Horse' in China. To incorporate the Budweiser Clydesdales in that level of celebration is tremendous. Introducing our horses and our beer to this country is a great opportunity," Trout said in a Feb. 26 telephone interview during a stay in a community near Shanghai. "The turnout has been spectacular. People here have no idea what the Budweiser Clydesdales are all about – they've never seen a Super Bowl commercial. When these magnificent animals show up, the people are awestruck. It's cool to be part of that."

With her personal success, Trout is quick to credit her education and experiences as a student at NDSU. "I had a great career at NDSU," said Trout, who grew up in Virginia. "The time there made me become very independent; I made a lot of friends."

Trout also was an exchange student to New Zealand for six months between her junior and senior years, which turned out to be an important facet of her education. "I had international experience, so maybe that's why I was selected for this trip to China," she said.

Looking ahead, Trout anticipates many more exceptional moments with the Clydesdales and their public.

"Anheuser-Busch is a great company to work for, and there are a lot of opportunities," Trout said. "I just hope I'm prepared when the next opportunity becomes available."

Students learn high-tech world of commodity trading

It's an amazing introduction to the fast-paced, pressure-packed world of risk management and trading. The scene is NDSU's new Commodity Trading Room.

Described as a laboratory to analyze commodity markets, the facility features the latest and best in technology.

"It's all very state-of-the-art. Students learn the technology that is becoming commonplace in the commodity marketing field," said William Wilson, University Distinguished Professor of agribusiness and applied economics. "With a few clicks of a button, you can now do things that would have taken months previously."

The assignments are prime examples of learning by doing.

Using dynamic linkages, students can produce spreadsheet analysis using multiple sources of information. Anything on a monitored screen can be linked to another screen, and the instant a number or order changes anywhere, it automatically updates the spreadsheet statistics.

"The Commodity Trading Room is probably the best teaching tool that has been presented to me during my time at NDSU," said senior Matt Poulson, an agricultural economics major from Casselton, N.D., who enjoys following rapid market changes through trading programs by Bloomberg and DTN-ProphetX. "It allows us to get a feel for what we can expect as commodity traders. I like using the same technology that we will be using once we are out in the working world as grain merchandisers and traders."

Meantime, Tanner Rohloff, a senior majoring in agricultural economics from Morris, Minn., said the high-tech equipment and marketing programs provide an essential real-world experience. "The Commodity Trading Room is a top-of-the-line facility that has had a tremendous impact on my education here at NDSU," he said. "It is incredible how simple these programs make extracting important data such as basis history and price trends that would typically be a serious time commitment."

Stephan Johansen, a graduate student in international agribusiness from Furnes, Norway, used information and software available in the facility for his thesis. "The information and analytical software at our disposition allows you to find all information imaginable," Johansen explained. "It has prepared me to take a question, find the data and analyze it to find the answer. In the end, I think this is one of the most important things you can learn."

Located on the first floor of Richard H. Barry Hall, the trading room has 32 workstations and can be expanded to 48 seats.

"Our goal is to teach students how to extract data efficiently from the multi-media world we live in," Wilson said. "Employers tell us they want more students, more technology and better training. With the Commodity Trading Room, we are doing that."

Funding for the facility has come from a variety of sources. The Office of the Provost and NDSU Technology Fee Advisory Committee supplied seed money. Also, agribusiness companies provided financial support, including ADM, CHS, Gavilon, The Rice Trader and George M. Schuler III of Minn-Kota Ag Products Inc. State commodity organizations also provided funds, including the North Dakota Corn Council, North Dakota Soybean Council, North Dakota Wheat Commission and Northern Crops Institute.

Alumnus moves from NDSU research lab to military medical school

For recent NDSU graduate TJ Peterson, a promising future beckons in both the military and medical fields. And he credits his NDSU experience for making it possible.

This past summer, Peterson was an undergraduate researcher in veterinary and microbiological sciences labs of Glenn Dorsam, assistant professor, and Jane Schuh, associate professor and assistant dean for academic programs in the College of Agriculture, Food Systems, and Natural Resources. The work focused on asthma research – specifically, studying allergic asthma and agricultural pulmonary exposure to grain dust, chemicals and toxins.

The intricate work, along with his bachelor's degree earned in December, put him in a prime position for success. As a student, Peterson was a member of the Minnesota National Guard and the Cadet Battalion Commander for the NDSU ROTC Bison Battalion. He was commissioned as an Army second lieutenant on the day he graduated, and active duty begins in June.

But, for now, he's further honing his medical skills at Sanford Health's Reproductive Medicine Clinic in Fargo.

"Because I was in an NDSU research lab, I feel I am learning faster than other colleagues of mine who first started," Peterson said of his work in the clinic's in vitro fertilization laboratory. "My NDSU lab work definitely was a good experience. I learned so much there – the extra instruction, the projects and the presentations were almost like taking classes."

His focus will soon change. Six weeks of military training in Texas will be followed by his entry into Uniformed Services University of Health Sciences in Washington, D.C.

"Every student there is in one of the branches of service. I'll have four years there, followed by a residency program," Peterson explained, noting the medical school is across the street from Walter Reed Hospital and National Institutes of Health. "I'm thinking of specializing in emergency medicine; working in an emergency room would be pretty interesting and exciting."

Meantime, Schuh suggests the hands-on research NDSU offered Peterson and others is a great way for undergraduate students to contribute and learn. "Being at a research university provides fantastic opportunities for our undergraduates," she said. "TJ is a great example of the caliber of students we have at NDSU, and it is an honor to be a part of his professional development as a future doctor."

Peterson suggests NDSU was a great fit, and helped pave the way for his future.

"Choosing NDSU's microbiology degree program has definitely prepared me for a career in medicine. I'm excited about the future," said Peterson, a native of Brooklyn Park, Minn.

At the same time, he knows a lot of effort still lies ahead. "It's nice not to have to study every night for a little bit, but I know I'll soon be back to hitting the books for the next seven years or so."

Peterson's NDSU undergraduate work was funded through a research program supported by the National Institutes of Health.

Instructor wins prestigious teaching award

Teaching is clearly Janice Haggart's mission in life. Talk with her for a few minutes, and her enthusiasm for students can't help but bubble to the surface.

Haggart, an instructor in the Department of Veterinary and Microbiological Sciences, recently received a major teaching award from the USDA and Association of Public and Land-grant Universities. The Excellence in College and University Teaching in the Food and Agricultural Sciences award recognizes sustained, meritorious teaching within food and agricultural sciences. One of six recipients in the regional category, she is the first NDSU faculty member to receive the honor.

"It was a total surprise. I was speechless," Haggart said of the recognition. "It does feel good to know that teaching efforts are appreciated."

What sets her apart? For her, it's is all about connections.

Haggart teaches a large microbiology course of more than 200 students, but there is little that is typical about it. In addition to lecture, she starts class with "Microbes in the News," pointing out interesting news stories. The class is often divided into small groups – some huddled in corners, others in hallways – working on a real-world problem, puzzle, game or topic related to the subject matter. Graduate students and teaching assistants mingle among the students to foster communication.

"Janice takes a personal interest in each student and balances high expectations with genuine compassion. Not only is she a great teacher, she's also a mentor to other faculty members. I still ask her advice all the time," said Jane Schuh, assistant dean for academic programs and associate professor of veterinary and microbiological sciences.

"I don't look at myself as exceptional. But, I really, really like my job. I love teaching and the interactions with students are 'Wow,' " Haggart said, noting she likes to include new activities and approaches. "I try to make the class as interactive as I can. I like to make a connection with my students, and I want them to connect with each other. My theory is you won't know if something works if you don't give it a try."

An NDSU alumna, Haggart's experiences as an undergraduate and graduate student may have helped set the path for her teaching style. "All of the instructors I had at NDSU were very engaging and got me excited about learning. That's what I want to do," Haggart said. "I want to make students excited about microbiology and how it's applicable in their life."

In addition, Haggart has all her advisees meet regularly as a group. Again, it is about forming links with others. "Younger students can pick the brains of the older students, and they can meet other people in their major," said Haggart, who also received the 2013 NDSU Outstanding Faculty Advising Award. "And I want them to also connect with NDSU, so the university will always mean something to them down the road."

Animal scientist uses research projects as teaching tool

If Kim Vonnahme is your instructor, you know it won't be a "sit back and watch" type of class. The NDSU associate professor of animal sciences is a firm believer in the adage that students learn best by doing.

"It's so gratifying and nice to see the light go on for my students," Vonnahme said of her hands-on style of instruction. "It literally takes only one to really get it, and as a teacher, I go 'Ah, that's why I do what I do.'"

Vonnahme is a respected researcher and educator in livestock nutrition and reproduction, and recently was named the 2013 Western Section Young Scientist by the American Society of Animal Science. In 2011, she received the society's Early Career Achievement Award.

Also an outstanding teacher, she received the 2008 Earl and Dorothy Foster Excellence of Teaching Award from the NDSU College of Agriculture, Food Systems, and Natural Resources.

Her independent study class, "Research and Reproduction," is a great example of her teaching technique. Vonnahme gives the juniors and seniors who enroll the chance to conduct their own research. Some have worked with animals before, while some have not.

"The class is really a mini research project," she explained, noting the students can conduct laboratory tests on tissues or blood samples and work with hormones, histology or molecular biology. After collecting data, they write a proceeding paper on what they discovered.

Working closely with Vonnahme and graduate students, the undergraduates are encouraged to take ownership of their research. Some have produced award-winning papers based on their projects.

Her style clearly brings results.

One of the students, junior Kayla Haglund, plans a career involving research in either reproduction or nutrition.

"The hands-on learning shows what would be expected of me in the future," explained Haglund, an animal science major from Windom, Minn. "It also has shown me how much behind-the-scenes work comes with a research project and how many people it takes for the project to be a success. Being able to complete research this early in my schooling really affirmed my goals."

Other students are quick to agree.

"Dr. Vonnahme has been nothing but supportive," said graduate research assistant Tori Kennedy. "She is passionate about her work in every facet – at a moment's notice she's ready to don coveralls and work cows with you in the snow, but will still arrive at your first graduate seminar in a bright, cheerful suit to show her support. Her ever-buoyant attitude and attention to her students makes me feel like a welcome part of the team."

For Vonnahme, her independent study course helps all involved. "It's really a win-win-win situation," she said. "Students decide whether or not they want to go to graduate school – that's a win. It's a win for me by introducing new students to research, and my graduate students win by learning management skills as they work with the undergraduates."

Vonnahme's research is funded, in part, by the North Dakota Agricultural Experiment Station and Agriculture and Food Research Initiative Competitive Grants from the USDA National Institute of Food and Agriculture, as well as a National Science Foundation grant to the NDSU Advance FORWARD program.

Barley research looks for answers, students gain real-world experience

It's research that pushes the boundaries of its science, with the goal to protect an important North Dakota crop.

Bob Brueggeman, NDSU assistant professor of plant pathology and barley pathologist, is studying the mechanisms of disease resistance at the molecular level. His focus is stem rust and net, diseases affecting barley and other cereal grains.

In a lab equipped with advanced DNA sequencing technology for large genomics screening projects, Brueggeman is working on ways for the plants to mount defensive measures against these pathogens, with an eye toward a new one, called Ug99, a highly virulent race of stem rust that originated in Africa and is spreading.

"When you have a new race of the pathogen come out, it can cause major problems. Ug99 is a major concern right now to both wheat and barley production, because it impacts 97 percent of the barley varieties and 85 percent of the wheat varieties. If and when it reaches the U.S., that leaves us very vulnerable," he explained. "We're breeding this form of resistance in North Dakota varieties to be preemptive so when and if this race and its varients reach the U.S., we have barley varieties that are resistant to it."

For his high-tech research, Brueggeman has received a five-year Faculty Early Career Development Award of more than $600,000 from the National Science Foundation and additional support from the North Dakota Agricultural Experiment Station. "The thing that intrigues me is that every day we are asking questions that nobody has answers to. It's fun because each answer leads to 10 new questions," he said.

As he looks for solutions, Brueggeman's students are gaining real-world experience and important hands-on experience. Three graduate students and three undergraduate students are assisting in the work.

Graduate student Jon Richards, for example, runs the lab's state-of-the-art DNA sequencing machine that can produce 11 million DNA sequences in four hours. "Working with cutting-edge research technology allows me to conduct my research with the best tools available, as well as gain valuable experience that will undoubtedly help my future career," said the doctoral student from Detroit Lakes, Minn. "All of this stems from the opportunity I received as an undergraduate to work in Dr. Brueggeman's lab, which propelled me to pursue my doctorate in plant pathology."

Graduate student Steven Carlsen also praises the opportunity to work on Brueggeman's research. Carlsen started in the lab as an undergraduate student, and now continues as he seeks his master's degree.

"Dr. Brueggeman has been a tremendous figure in shaping me as a student and as a researcher, and I look forward to the many great lessons I still have to gain from him," said Carlsen, who is from Alexandria, Minn. "His blending of tried-and-true methods with new and cutting-edge technology is an exciting mix that can't help but spark interest."

Through Brueggeman's mentoring and the lab work, students gain important skills in critical thinking. "We're working on real problems, thinking them through and solving them through hypotheses-driven research," Brueggeman said. "The students get their name on research publications communicating their findings, and that excites them."

In the meantime, Brueggeman and his students know the importance of their work. "It would be nice to look over a field of barley in North Dakota and say it now has genetic protection from an insidious disease. It'd be nice to see the research deployed from the lab to the furrow," Brueggemann said. "We could say, 'This is what we've done in the lab with our molecular gizmos and it's expedited the process to protect your crop.' "

Agriculture leaders recognized with Agribusiness Award

An NDSU alumnus and a former NDSU faculty member were recent recipients of the prestigious Agribusiness Award presented during NDSU's Harvest Bowl festivities. Neal Fisher, BS '73, MS '76, agricultural economics, was honored in 2012, while Richard Frohberg was recognized in 2013.

Fisher

Frohberg

For more than 30 years, Fisher has traveled the globe promoting North Dakota's wheat crop. As administrator of the North Dakota Wheat Commission, he is responsible for implementing producer-funded programs aimed at increasing worldwide use of the state's hard red spring, durum and other wheat classes.

Fisher previously served on the State Board of Agricultural Research and Education. He serves on the advisory board to the Northern Crops Council, NDSU Research Foundation board of directors and chairs the Upper Great Plains Transportation Institute Advisory Committee. In addition, his duties include the Joint Trade Policy Committee of U.S. Wheat Associates and National Association of Wheat Growers and serves on the Agricultural Trade Advisory Committee of the U.S. Department of Agriculture and the Office of the U.S. Trade Representative in Washington, D.C.

Frohberg, an NDSU professor emeritus, is an internationally renowned wheat breeder whose varieties had a major impact in North Dakota and across the globe. He was the principal investigator for NDSU's hard red spring wheat breeding program from 1966 until his retirement in 2002. During his tenure, 25 varieties were released. Frohberg also contributed to the development of nine varieties released after his retirement.

His long and productive research career advanced the state economically, and also benefitted baking and milling industries throughout the world. In addition, his free exchange of germplasm directly helped producers and breeding programs worldwide, which continue to provide nourishment for millions of people.

Faculty member receives endowed professorship

Senay Simsek, spring wheat chemist and associate professor of plant sciences, has been awarded the first NDSU Bert L. D'Appolonia Endowed Associate Professorship in Cereal Science and Technology of Wheat.

The endowment is named after D'Appolonia, an NDSU faculty member from 1963-93. He was internationally recognized as an expert in cereal chemistry and end-use quality of hard red spring wheat. In addition, he has served as a consultant to the U.S. Wheat Associates and North Dakota Wheat Commission since 1978.

"Receiving the D'Appolonia endowment is such an amazing honor," Simsek said. "Dr. D'Appolonia is not only a cereal scientist known worldwide, but also a great mentor. I am more committed than ever to the NDSU community that has brought me so much joy and success."

Simsek has built a strong research program since joining NDSU in 2007. She has received grants to outfit a laboratory that is fully equipped to address research problems in carbohydrate chemistry and wheat quality.

She earned her bachelor's degree in chemistry from Bülent Ecevit University in Turkey and her doctorate in food science at Purdue University.

DISTINGUISHED ALUMNI SHARE ADVICE WITH STUDENTS

2012

For his outstanding career as a respected leader and administrator, alumnus **Philip E. Austin**, University Professor and President Emeritus at the University of Connecticut, was honored as the 2012 Distinguished Alumnus for the NDSU College of Agriculture, Food Systems, and Natural Resources.

Austin, BS '64, MS '66, agricultural economics, honorary doctorate, '96, was president of UConn from 1996 to 2007, and later served as interim president while the board of trustees conducted a search to fill the position permanently. Previously, Austin served for seven years as chancellor of the University of Alabama System. Before that, he was president of Colorado State University and chancellor of the Colorado State University System.

His career also has included stops as deputy assistant secretary for education in the Department of Health, Education and Welfare, and a stint as an economist in U.S Office of Management and Budget. An Army veteran, Austin served in the Office of the Deputy Chief of Staff for Economic Affairs at U.S. Military Headquarters in Saigon, Vietnam, and at the Pentagon.

Austin, a native of Casselton, N.D., earned a doctorate in economics from Michigan State University after graduating from NDSU. "I had a wonderful education at NDSU. I love the place and it prepared me very well for my career," Austin said during a campus visit Nov. 1, 2012. "To say I am honored to be invited back is an understatement."

His advice to current students is simple and straightforward. "It's like coaching a basketball or football team. You've got to win this game before you talk about what you're going to do three months or three years from now," suggested Austin, who lives in West Hartford, Conn. "When you're in school or in your first job, you need to do the very best you can. Opportunities open up because of that."

Austin's own experience is the perfect example of that thought. Another opportunity came his way in October 2012, just a couple of weeks before his campus visit. Conn. Gov. Dan Malloy appointed him interim president of the State Board of Regents for Higher Education, a group that oversees 17 state colleges and universities.

2013

When **Arlen Leholm** speaks, people listen. Senior executives in business and at universities across the country seek the advice and counsel of the 2013 Distinguished Alumnus of the College of Agriculture, Food Systems, and Natural Resources. A co-author of the book, "Increasing the Odds of High Performance Teams – Lessons Learned," Leholm is an expert in team building and performance enhancement.

Leholm, BS '70, MS '72, agricultural economics, describes himself as a coach and mentor, who emphasizes the role of emotional intelligence. The skill is defined as the ability to identify, assess and control the emotions of oneself and groups.

"I see human capital as an investment," Leholm said after addressing a farm management class during a visit to NDSU Oct. 23, 2013. "It's important for students to be technically wise, but they also need to learn the soft skills, like emotional intelligence and the ability to get along with people."

Leholm, who earned his doctorate at the University of Nebraska, was executive director of the North Central Regional Association of Agricultural Experiment Stations in Madison, Wis., from 2004 until retiring in 2013. He previously was dean and director of the University of Wisconsin-Extension and also was director and associate director of Michigan State University Extension.

Leholm also was co-director of the Michigan State University Product Center for Agriculture and Natural Resources, where he was a consultant to the World Bank. His influence was felt in Extension, research and client services in India and other Asian countries.

"I had an opportunity to work with people who gave careful mentoring to me," said Leholm, a native of Tioga, N.D. "I had a good experience, and now it's my turn to mentor people. I am paying back society."

Leholm lives in Apple Valley, Minn.

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PERFECTING A PASSION

"The Little International is primarily a livestock show. However, it is more than just a lively and entertaining educational feature. The university has as one of its aims the development of students in the arts, abilities and attitudes that will be useful throughout their lives—qualities that endure long after students have graduated. These are the attitudes the Little International fosters." *- M.L. Buchanan, former NDSU animal sciences chair*