

Perspectives

In the past year we've started using the term "spires of excellence" within the Institute of Agriculture and Natural Resources. I'd like to discuss a bit today what that means — and what it doesn't.



John C. Owens
NU Vice President and
Harlan Vice Chancellor, IANR

Let me begin by telling you how the whole idea of spires of excellence came into being.

Last fall Chancellor Perlman put the question, "What's the Institute known for?" to the IANR Deans Council. Well, of course, there are many things. Certainly being at work for Nebraska is one of them, and that occurs in so very many ways all across Nebraska.

To answer the Chancellor's question specifically, the Deans Council concluded, after much thought and discussion, that there are definite characteristics we think define certain key areas of excellence — things we're known for in the Institute. Using those characteristics, we identified five areas of considerable strength in IANR that we now call spires of excellence. They are:

- beef systems;
- crops for the future;
- food, nutrition and health;
- water and climate;
- child and youth development.

What is implicit in defining spires of excellence is this: Virtually all work done in the Institute, whether it is specifically mentioned above or not, contributes to the success of these spires.

It's all of IANR, working together — the research, the teaching, the extension education in every area we touch — that serves as the solid base of, and the support for, IANR's success. Spires emerge because there already is a solid, dynamic base of multidisciplinary knowledge at UNL upon which new knowledge and strengths continually grow.

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The Leading Object

*The Morrill Act of 1862
established a Land Grant University
in each state where
The Leading Object
would be instruction
in agriculture and related fields.*



August 2009

Undergraduate students from Chinese university conduct research at UNL

Zhenguo Tan's efforts have has been impressive while working full time in the Department of Biological Systems Engineering laboratory.

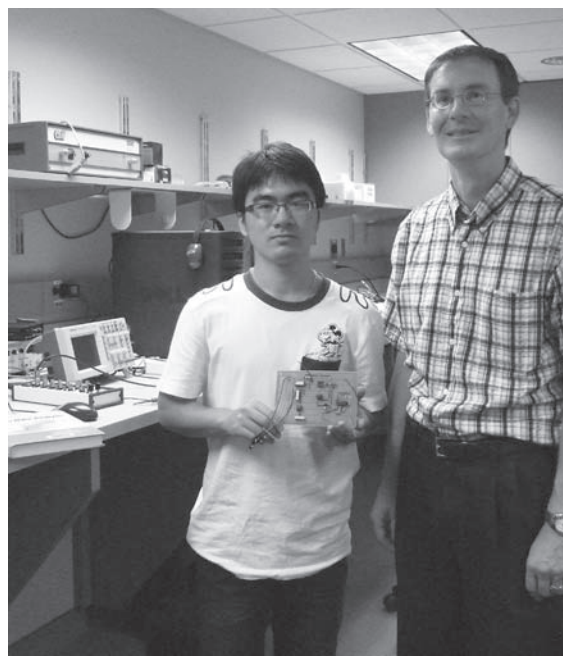
Tan is one of 16 undergraduate students from Zhejiang University (ZJU) in Hangzhou, China, to conduct research at the University of Nebraska–Lincoln for six weeks this summer. Three of the ZJU students worked with IANR faculty.

Tan's research helped redesign an electrocardiogram circuit — a sensor that measures the electrical fields that emanate from the heart.

"He's done fantastically," said Greg Bashford, BSE assistant professor. "He's redesigned a circuit board that we designed a few years ago and added some features that will make it much better."

UNL's involvement with ZJU is a continuing evolution. Last year IANR partnered with ZJU to develop a joint China-U.S. center for advanced agricultural and natural resources technology.

Also last year, IANR signed an agreement with ZJU for a graduate program that will bring ZJU students to Lincoln. Under the three-plus-one plan, ZJU undergraduates will transfer to UNL after three years to complete their bachelor's degrees, then will earn a master's degree from the College of Agricultural Sciences and Natural Resources.



Lori McGinnis

Zhenguo Tan, left, shows the electrocardiogram circuit he helped redesign during a research project at UNL. Tan worked with Greg Bashford, Biological Systems Engineering assistant professor.

David Lou, professor in the UNL Department of Mechanical Engineering, helped organize the recent visit of the student researchers.

"Twenty-six students applied to the program and we selected 16. These are excellent juniors with great GPAs from the third-ranked university in China," Lou said.

Out of the 16, 10 worked in the College of Engineering, three in the College of Arts and Sciences, and three in CASNR. Of those three, two worked in BSE and

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We figure everyone knows that. Every now and again it's a good idea to say it.

The key characteristics reaching across IANR's spires of excellence are these:

They address all areas of the land-grant university mission of teaching, research, and extension education. All involve a critical mass of people, as well as multiple units and disciplines.

All have Nebraska value as well as national, and often, international, scope. All contribute value-added dimensions to the fundamental work of IANR. All generate enthusiasm and opportunities, and all have the ability to attract resources.

Certainly, every one of these spires addresses significant issues facing Nebraskans. They are not, however, the only things we do to address significant issues. And, while we cite these spires as specific IANR strengths and take great

pride in them, they are not the sole focus of the Institute.

It is the interests and expertise of our faculty, from the most basic studies through application and education, which engender spires of excellence. It's no coincidence our spires of excellence meet the needs of Nebraska, as well as our nation and world.

We are land-grant university faculty. Work of benefit to our constituents is what we do.

One thing key to remember in considering spires of excellence is this: They are dynamic.

Perhaps one of the best images for describing them within IANR is that of an active mountain range. New spires can arise; current spires can erode.

Over time, as new needs and different concerns face our state and world, we are

likely to see other, now-developing areas join our currently identified spires, perhaps even replace them. Those, too, will grow out of faculty interest and expertise, working hand-in-hand with the concerns, issues, and needs of Nebraskans.

We expect that. Those devoted to the land-grant university mission listen to their constituents and strive to meet their needs. Here, we take our land-grant university mission very seriously. That shows in the many ways we are at work for Nebraska.



Water Center change underway

Kyle Hoagland is leaving the directorship of the Water Center Sept. 1 to pursue other water and related program areas at the University of Nebraska-Lincoln. Hoagland has directed the center since 2000.

An interim director will be appointed as a national search gets underway to fill the position.

Don Wilhite, director of the School of Natural Resources of which the Water

Center is a part, noted Hoagland has been and will continue to be a tremendous asset to the University.

Wilhite said Hoagland's future responsibilities likely will include conducting background research in support of new initiatives in water, including the Global Water Institute currently being discussed by higher administration. He also will help seek new funding opportunities and prepare grant proposals for external funding.

Undergraduate students from Chinese university

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one in the Department of Agronomy and Horticulture.

"This will be a great recruiting tool," Lou said.

Bashford said the research program benefits UNL as well as the students. UNL benefits from cutting-edge research conducted by top-notch students, he said. The ZJU students benefit by getting the opportunity to work in an advanced laboratory.

Tan said BSE's laboratory has more equipment than do laboratories at ZJU.

"This helped me a lot. The labs are wonderful," he said. "The time I stayed here is too short."

— Lori McGinnis

Waldren retires after 35 years with UNL

Richard Waldren, professor in the Department of Agronomy and Horticulture, is retiring after 35 years with UNL.

While Waldren has served the department as teaching and computing coordinators, his main emphasis has been on undergraduate teaching. He has taught more than 15,000 students in the areas of plant science, natural resource systems, and crop management.

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Need to meet with the

**Vice President/Vice Chancellor?
Drop-ins each Friday from 3-5 p.m.*
John C. Owens**

NU Vice President for
Agriculture and Natural Resources
and Harlan Vice Chancellor of IANR

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*Occasionally Dr. Owens will be called away on University business.

Hansen agricultural ties important in his legislative service

Tom Hansen went from working on his family's century-owned ranch to working in the Nebraska Legislature, and he made sure to bring his agricultural ties with him.

Hansen serves Nebraska's 42nd legislative district, encompassing all of Lincoln County. It is a job that made sense for Hansen, who understands the importance of having a state senator with agricultural ties helping lead a state where agriculture is the top industry.

The 1970 University of Nebraska animal science graduate was raised on his family's 131-year-old ranch, the Hansen 77 Ranch seven miles north of North Platte.

The ranch was started by Hansen's great-grandfather Hans Hansen. His father Wes and grandfather Henry also worked on the ranch, which raises about 1,200 calves every spring and sells them in the fall.

Tom Hansen started working on the ranch when he was in eighth grade, spending most of his evenings and summer vacation taking care of the cattle.

"It's been part of my life since I've been around," he said.

Since he was accustomed to and enjoyed working with livestock, he decided to come to the University to study animal

science to get a more formal education. It was at the University while working in laboratories where he learned more about the value of research, and that contributed to the family's decision to allow use of the ranch for beef research projects.

"When you see what those researchers do, that meant a lot to me," Hansen said. "It gave me a good background on the value of research."

After graduation Hansen returned to ranch, where he worked full time until 1999, when his son took over. Hansen had some back problems at the time and decided to work part time.

A few years later Hansen decided to run for Legislature. His grandfather had been a state senator in the 1920s and 1930s, and his father was active in supporting political candidates. The political itch transferred to Hansen.

While going through some files his grandfather had, he read about his grandfather's experience in the Legislature. Hansen thought that would be a good fit for him.

Hansen, past president of the Nebraska Cattlemen, was elected to the Legislature

in 2006. He came to the body touting his desire to work to support agriculture. Even though his committee assignments haven't included agricultural issues, he strives to use his agricultural background to serve the state.

"We're still an agriculture state. We can raise more corn, feed more cattle, and become a world leader in food production," he said.

Hansen, who still works for the ranch part time as secretary-treasurer, said his experience at the University and in the Legislature has contributed significantly to his life. He attributes the Legislature for helping him understand more about the diversity of the state and the various topics that need to be addressed.

He is grateful for the large number of contacts he made while in college, many of which he still has today.

— Lori McGinnis



Tom Hansen

Dairy Store's goal is to serve its customers well

Engaging the customer is the top priority of Bryan Scherbarth. Scherbarth, manager of the UNL Dairy Store, makes it his mission to please patrons of the popular East Campus hangout.

For example, when some customers asked for organic and coconut ice cream, Scherbarth worked to accommodate them.

"I want to engage the customers," he said. "The business at hand is to take care of the customers. When you're at the counter the most important person is the next person in line."

The Dairy Store is known primarily for its ice cream and cheese, but the busiest time of the day is lunch, when people come to select from a menu of sandwiches, soups, and other meal items. Scherbarth strives to work the lunch counter himself at least twice a week so he can interact with customers.

That interaction is how he has picked up ideas for the store.

For example, some customers told Scherbarth they would like to see coconut ice cream at the store. Experience told Scherbarth that coconut ice cream doesn't sell well, but he tinkered with the idea and came up with an ice cream that used coconut. German chocolate cake ice cream was a big hit.

After customers suggested it, Scherbarth in July unveiled a vanilla ice cream made with organic milk. He found a place in Nebraska to buy the milk from grass-fed dairy cows.

Developing new ice cream flavors is one of the main goals of the Dairy Store. The store has seven flavors that are always available — vanilla, chocolate, Bavarian mint, butter brickle, cappuccino chocolate chip, karmel kashew, and scarlet and cream. The store also creates new flavors several times a year in smaller

batches. A small batch freezer allows the creation of such flavors as caramel apple dapple, watermelon, Morrill Orchard Medley, and centennial apple spice.

Scherbarth likes to create flavors for a specific purpose. Morrill Orchard Medley was created to recognize the Justin Smith Morrill Scholars Program and centennial apple spice recognized the University's 100 years of educating teachers.

"We would like to do more of that," he said.

Unlike larger ice cream manufacturers, the Dairy Store is able to experiment with new flavors because the purpose is not so much to make a profit than it is to train food science students in the art of ice cream making, he said.

Customer service is just one of the priorities Scherbarth has advocated since he arrived at the Dairy Store in 2007. He also has made shopping easier with the installation of large coolers in the lobby, ensures that only Dairy Store cheese is used in the store's food preparation, and has instituted monthly burger grill-outs.

It rained during one of the grill-outs this summer which just happened to be the day the University of Nebraska Board of Regents, meeting across the street at Varner Hall, planned to attend the event.

The regents planned to attend the grill-out and eat inside, but later decided they wished to avoid the rain. Scherbarth and his staff arranged to have the food delivered to Varner Hall. He returned with dessert — ice cream of course.

— Lori McGinnis

UNL's organic certified acres to provide valuable insight to producers

The University of Nebraska–Lincoln's 168 recently organically certified acres spanning various ecozones will help organic producers make decisions related to crop rotations, varieties, and cultural practices.

Charles Shapiro, UNL Extension crop nutrition specialist and one of six UNL organic co-leaders, said from southeast to northwest, the state's terrain, soils, rainfall, and altitude are considerably different and provide for diverse cropping.

The High Plains Agricultural Lab near Sidney rotates winter wheat, proso millet, and sunflowers, along with summer fallow. Central and eastern Nebraska's organic locations are at the Agricultural Research and Development Center near Mead, Haskell Agricultural Laboratory near Concord, and the South Central Agricultural Laboratory near Clay Center. They rotate corn, soybeans, various forages, and winter wheat. Also being studied are cover and green manure crops, those grown and disked under to return nutrients to the soil.

Shapiro notes principal research by investigators and technicians at each of the four sites, combined with overall coordination by UNL organic farming systems extension educator Liz Sarno based near Concord, makes for a "hybrid" type of management.

Sarno added that researchers, technicians, educators, and producers work together for a whole systems approach.

For example, when producers find something that works, researchers can analyze the science behind why. Plus, organic practices such as flaming to control weeds can benefit conventional producers.

USDA reports organic acreage in the nation doubled during the 1990s and consumption of organically produced products increased 20 percent per year in the last decade.

The 2007 Census of Agriculture shows Nebraska with 190 farms and more than 82,407 acres certified for organic production. That compares nationally to 16,778 farms and more than 1.2 million acres. The census also reported that 75 percent or \$12.9 million of Nebraska's organic sales were in crops, while 25 percent of organic sales were in livestock and poultry.

Nebraska ranks seventh in organic grain production and has the 10th largest acreage of organic crops in the U.S. There are an estimated 135 organic Nebraska producers.

A recent \$1.4 million USDA grant will expand UNL's organic education and work, which began in 2005. New directions include work with organic production effects on antioxidants in grains, weed control, nutrient cycling, and biological diversity. In addition, several on-farm organic research groups are to be formed.

Extension plan helps keep lakes free of toxic algae

University of Nebraska–Lincoln Extension has built a successful plan to ensure that popular sandpit lakes in the state remained open this summer and free of toxic algae.

Extension water quality experts developed a process to rid the algae-prone Fremont State Lakes of the oily green scum that routinely plagues it. The process includes ridding the lake of its fish population, treating the lake with aluminum sulfate, which removes the algae's primary food source from the water, and restocking it with fish.

"The use of aluminum sulfate is the key to removing lake toxins," said extension

surface water quality specialist Tadd Barrow. "Although fish removal and restocking does provide some benefit to balancing the overall ecology of the lake, fish removal and restocking will not remove the high nutrient concentrations that drive the growth of toxic algae."

Water quality experts from UNL and the Nebraska Department of Environmental Quality, and fisheries experts from the Nebraska Game and Parks Commission, two years ago successfully used the process to remove Fremont Lake 20 from the list of perennially closed lakes.

"The result was the lake wasn't closed

at any time during the 2008 recreation season and that trend continued this year," Barrow said.

Uncontrolled algae growth can clog sandpit lakes with bluish-green scum, contribute to fish kills and make them unsafe, foul smelling, and unusable for recreation, resulting in thousands of lost public visits each summer.

Though numerous Nebraska lakes have been closed due to blue-green algae infestations over the past few years, Fremont Lake No. 20 had the severest condition until the state and UNL experts developed the clean-up plan.

Henneman receives nutrition award

Alice Henneman, extension educator based in Lincoln, received the Helen Denning Ullrich Award of Excellence in Nutrition Education at the Society for Nutrition Education's (SNE) national meeting.

The award is given to recognize a member of SNE for contributions to and accomplishments within the field of nutrition education. Ullrich was a founding member of SNE.

The award was presented in July in New Orleans.



Alice Henneman

Rasby receives beef industry award

Beef specialist Rick Rasby received IANR's 2009-2011 Wendell Burgher Beef Industry Award in July.

The award is given every two years in recognition of excellent research, teaching, and extension education efforts in the beef industry.

The award was established by Louis Burgher in honor of his father, who was active in the livestock industry in Nebraska and Iowa.



Rick Rasby