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National Science Foundation grant advances 4-H robotics curriculum

Nebraska 4-H is emerging as a national leader in science education, thanks to a nearly $2.5 million grant from the National Science Foundation announced Dec. 5 that will take its robotics curriculum national.

Targeted at students in grades 7-9, the 4-H Robotics and Geospatial Project is built on a 40-hour summer camp experience that features hands-on activities that teach robotics and geospatial technologies in promoting learning in science, technology, engineering, and mathematics. Following the summer camps, participants go back to their 4-H clubs and after-school programs for monthly meetings to build on what they learned. Then, in year two, they attend an advanced summer camp, followed by eight more months of activities in their home communities.

During summer 2007, the project was piloted with two camps, followed by formation of several pilot clubs. During summer 2008, 150 youth attended six camps, and 13 clubs will meet during the 2008-09 school year.

This new grant will expand the curriculum’s reach, first in the North Central Region, then nationally.

The idea, organizers say, is to get young people excited about science, math, engineering, and technology, not just now but for the rest of their lives.

Robotics is a great way to do it, said 4-H’s Brad Barker, one of the project’s co-leaders.

“Robotics is a great integration of all those concepts, all those academic areas,” Barker said. “We make it fun for them. They’re building, they’re programming, they’re hands-on.”

“This type of technology is exciting enough that once you get people at any age working with it, they want to learn more,” said Viacheslav Adamchuk, associate professor in Biological Systems Engineering and the other project co-leader.

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from 18,053 to 18,526, an increase of 473 students, CASNR undergraduate enrollment increased 12.9 percent, up 187 students from last year.

This year we have 1,642 undergraduate students studying with us, and 504 graduate students.

Yes, we have much to celebrate.

Most wonderful about all of this, of course, is our students. CASNR is about students, and the great education they receive here, and the careers they’ll go into when they graduate. CASNR is extremely student-focused, and that is a plus for everyone who studies here.

It’s a plus for us, too — the enthusiasm these young people bring to our campus is contagious. We cannot begin to forecast the mark our students will make on the world through their work and community contributions, but I have no doubt it will be a mighty one.

Our outstanding, entrepreneurial faculty help students prepare for the future, providing them the knowledge they’ll need to continue learning all their lives. Both our faculty and staff teach, by their own examples, community caring, involvement, and responsibility. Thank you for that.

Another cause for celebration is the fact that not only is CASNR gaining new students, it is keeping them. For calculation of retention, 90.1 percent of first-year CASNR students in fall 2006 still were enrolled in fall 2007.

Recruitment and retention both matter deeply to us.

As 2008 draws to a close I hope each of you takes time to reflect on and savor the many reasons you and your colleagues have had to celebrate throughout the year. Accomplishments, both large and small, enrich our IANR community. Each is important.

I wish you many more reasons for celebration in 2009. Happy holidays.

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National Science Foundation grant advances 4-H robotics curriculum (continued from page 1)

Surveys from the pilot camps show the program works: Students who participated in the five-day camp last summer showed a 30 percent increase in science, technology, engineering, and math learning. Also, their attitudes toward those disciplines improved from 3.88 to 4.10.

Barker said plans are to build a new, affordable robotics kit for the national project. Bing Chen, professor of computer and electronic engineering, will take the lead on that.

Working with its partners — the National 4-H Council and National AfterSchool Association — Nebraska 4-H will contract with several trainers who will train others to conduct the curriculum. Initially, that will be 40 trainers in each of three regions.

The first step will be to hire a project manager and instructional designer, Barker said.

The curriculum will be taught in both 4-H and after-school programs. “There’s a shortage of scientists and engineers. We’re trying to have kids go through this program, be successful and realize ... ‘I can do science,’” Barker said.

Curriculum organizers are especially interested in keeping girls interested in science, he added.

— Dan Moser

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Extension dean named to CSREES Hall of Fame

The U.S. Department of Agriculture has inducted University of Nebraska–Lincoln Extension Dean Elbert Dickey into its Cooperative State Research, Education, and Extension Service Hall of Fame.

Dickey is among the 2008 inductees. He has been dean and director since 2001, following two years as interim dean. He started his career at UNL in 1978 in what is now the Department of Biological Systems Engineering. Before that he was a research assistant at the University of Illinois.

Dickey served as half-time extension and education adviser to CSREES from 2005 to 2007. He also has been secretary, vice chair, and chair of the governing board of directors of eXtension, an Internet-based educational partnership of 74 U.S. universities.

CSREES, the USDA’s chief research and education agency, created the Hall of Fame in 2004 to recognize those who have integrated research, education, and extension in fulfilling the agency’s mission to advance knowledge for agriculture, the environment, human health and well-being, and communities.
Tom Hoegemeyer’s father and grandfather were involved in the plant breeding industry, but he didn’t get interested himself until he took a genetics course at the University of Nebraska–Lincoln.

Now, Hoegemeyer is chief technology officer and part owner of Hoegemeyer Hybrids in Hooper, one of the 20 largest privately-owned corn and soybean seed companies in the United States.

Had he gone someplace else to college, Hoegemeyer believes he would not be at the point he is at today in his career.

“I was well-taught,” he said. “I had the opportunity to meet and work with professors and get to know them and what they were doing. That is what interested me.”

Hoegemeyer’s knowledge of the industry has led to another step in his career as well. In January, Hoegemeyer is to begin work half-time at IANR as professor of practice in agronomy and horticulture in the field of plant breeding. His responsibilities are to help team teach and mentor and advise undergraduates and graduates about career possibilities.

Hoegemeyer was undeclared when he enrolled in the College of Agriculture in the 1960s. Even though his grandfather, H. Chris Hoegemeyer, began a family seed business in 1937 and his father, Leonard, worked in the business, he was uncertain if it was for him. He had in his mind of going into biology or biochemistry.

During his freshman year Hoegemeyer was invited into an agricultural honors program, which was open to those who had taken at least one ag class and had a qualifying grade-point average. While in the honors program he took a genetics class taught by Dave McGill.

“It was a situation where he made me so interested in the field that I could not think of doing anything else,” Hoegemeyer said.

As an undergraduate Hoegemeyer was awarded a National Science Foundation grant, which allowed him to participate in genetic research with C.O. Gardner. He graduated in 1970, entered the Army Reserve for a short time, then went to Iowa State University to earn a doctorate in plant breeding and quantitative genetics with an emphasis in corn.

Afterward he thought he would like to be a university professor but was unable to find any openings in his area. He decided to enter the commercial world and figured he might as well work for himself in the family business rather than joining another company.

Hoegemeyer did so, thinking it would only be for a couple of years.

“A couple of years turned into decades,” he said.

His father had started a corn breeding project that Tom helped expand. Currently his son and nephew are involved in the business, which employs 40 people, and sells hybrid corn and soybean seed in Nebraska, Kansas, Iowa, Missouri, and South Dakota.

“We’re now the only family-owned corn seed company in the western Corn Belt,” he said.

Hoegemeyer thanks UNL for getting him interested in the science of genetics.

“My University of Nebraska background served me very well,” he said. “The personal interactions I had were the most valuable and influential to my career.”

—Lori McGinnis

Holly completes PGA education

Scott Holly, coordinator with the PGA Golf Management Program in the College of Agricultural Sciences and Natural Resources, has moved up in the Professional Golfers’ Association (PGA) of America.

Holly, already a PGA professional, recently completed a continuing education program through the PGA. He now is only the fifth PGA certified professional in the Nebraska section of the PGA, comprised of 179 PGA members.

To become certified, Holly completed more than 40 online courses that took between 100 and 120 hours. He did the coursework as an independent study through the UNL College of Business Administration as part of his master’s program.

Also related to the PGA Golf Management program, the PGA has featured five CASNR students in a recruitment video at www.pgm.unl.edu, Holly said. The PGA was on campus early this year to shoot video of East Campus and the students.

Faculty members visit Zamorano University in Honduras

Efforts to advance distance education learning at Zamorano University in Honduras prompted a group of IANR faculty members to travel to that country.

The group accompanied Janet Poley, president and chief executive officer of the American Distance Education Consortium (ADEC), on the four-day trip. Participants included Marilyn Schnepf, chair of the Department of Nutrition and Health Sciences; Carlos Urrea, dry bean breeding specialist at the Panhandle Research and Extension Center; and Curt Weller, program coordinator in Biological Systems Engineering.

Schnepf went to help Zamorano establish more nutrition classes. Urrea worked to increase collaboration of internships between Zamorano and UNL, and Weller worked to promote food science education as well as energy research.

The August trip was the latest of several that Poley has made to the Honduran university over the last four years to promote distance education. Rolando Flores, head of the Department of Food Science and Technology, and Deana Namuth-Covert, associate professor in the Department of Agronomy and Horticulture, also have been involved in the work at Zamorano.

“We helped them start distance learning,” Poley said. Zamorano is a member of the consortium and Poley is a member of the board of advisers for the Honduran university.

Poley hopes the work at Zamorano not only helps to continue distance education development but also increase research opportunities, and faculty and student visits to UNL.

ADEC has formed similar partnerships with other universities in Mexico and Central America.

—Lori McGinnis
Retirement opens new chapter for Mayo

Z B Mayo joined the Agricultural Research Division in 2005 with the intent on staying about six months. His departure comes more than three years later.

Mayo’s Oct. 31 retirement opened a new chapter in his career. He still is working with the Institute of Agriculture and Natural Resources, this time to further develop international programs.

Mayo was appointed interim dean and director of ARD in July 2005 — a position that was to last six months. When Gary Cunningham was hired to serve as dean and director, Mayo agreed to stay on as interim associate dean and associate director.

“I agreed to stay on for six months, but it kind of stretched out,” Mayo said.

Mayo, a Texas native, came to the University of Nebraska–Lincoln in 1972 after completing his doctoral degree at Oklahoma State University. He joined the Department of Entomology, where he eventually spent 10 years as head.

An accomplishment of which he is most proud as department head was helping faculty create a distance master’s degree in entomology.

“We were ahead of the curve in that area and it’s still going strong,” he said.

Mayo has been active in the Entomological Society of America and served as president in 2003. Since leaving the department, he continues to stay active on two graduate student entomology committees.

Immediately after ending his ARD tenure, Mayo moved across the hall into the vice chancellor’s office, where he is working in a 30 percent capacity with Associate IANR Vice Chancellor Susan Fritz in the international arena.

Mayo said he may travel some, but most of the job will be spent developing international agreements and partnerships.

“We have a lot of interest in international efforts,” Mayo said. “Globalization is becoming more apparent in all disciplines but in agriculture in particular.”

Outside of that position, Mayo said he hopes to find some “fun things to do” and spend more time at home with his wife, Lois, the science curriculum coordinator for Lincoln Public Schools.

— Lori McGinnis

Hamernik, Jackson named associate ARD deans

Deb Hamernik and David Jackson are new associate deans for the Agricultural Research Division.

The appointments come at a time when ARD expects to substantially improve its research infrastructure and hire a significant number of new faculty, said Gary Cunningham, ARD dean.

Hamernik now is national program leader in the animal systems division of USDA’s Cooperative State Research, Education, and Extension Service. She was USDA’s program director for the National Research Initiative’s Bovine Genome Sequencing and Porcine Genome Sequencing programs.

She held earlier positions with the National Institutes of Health, the University of Arizona, and University of Nebraska–Lincoln.

Hamernik’s bachelor’s degree is in animal science from UNL, her master’s in animal science from Washington State University, and her doctorate in reproductive endocrinology from Colorado State University.

She is to arrive in March.

“As a native Nebraskan, I am proud to return to the state as a member of the IANR administrative team, and look forward to working with faculty to enhance the IANR research portfolio,” Hamernik said.

Jackson, a professor in the Department of Food Science and Technology, is the department’s former interim head. He also served as an ARD administrative intern.

Jackson’s bachelor’s degree is in food science from Cornell University, his master’s and doctorate are in food science and technology from Texas A&M University.

His appointment began in October.

“I’m very excited about the opportunities and challenges that come with this appointment,” Jackson said.

Cunningham said Jackson and Hamernik will help UNL build on its stature as an internationally recognized research and education institution by boosting efforts to attract external research funding, particularly from federal agencies.

“These new appointments will help ARD face increased economic challenges and pressures for more accountability, while increasing and strengthening research and education programs to better serve Nebraskans,” Cunningham added.

Jackson and Hamernik also will play key roles in promoting interdisciplinary collaboration among units, tracking accountability for ARD research, and helping with faculty development.

Both also will teach while attending to their administrative duties.

Z B Mayo, former associate dean for ARD, retired Oct. 31.

Osborne presents leadership awards

Nebraska Athletic Director Tom Osborne presents a teamwork award to Martin Gakuria, a biological systems engineering senior from Nairobi, Kenya. Cheryl Bailey, assistant professor of biochemistry, invited Osborne to present classroom awards to 18 students for leadership as he is the founder of the TeamMates mentoring program. Osborne said he believes it is important to express appreciation for excellent leadership and teamwork activities.