

NDSU researchers awarded three patents

NDSU researchers recently were awarded patents for developing three new technologies. The work ranges from DNA encoding of an *E. coli* gene to an oil-based coating to a method to prepare Beta-amino acids.

"We feel good about these patents. They involve three new areas," said Dale Zetocha, executive director of the NDSU Research Foundation, which manages the university's intellectual properties and helps secure patents, trademarks and copyrights. "In all three of these cases we need industry partners who can further develop and commercialize the technologies. We have interest from companies in all three and we hope to get them all licensed."

One of the new patents, awarded July 11, involves the cloning and sequencing of a gene associated with *E. coli* disease in chickens, turkeys and waterfowl. The research was conducted by Lisa Nolan, associate professor of veterinary and microbiological sciences and project lead scientist; Shelley Horne, post-doctoral fellow; and Michael Robinson, associate professor of veterinary and microbiological sciences.

The work is significant because the disease is considered to be a \$1 billion problem in the poultry industry. "Before this time, we haven't had any way to separate disease-causing *E. coli* from harmless *E. coli*. We've isolated a gene that appears to separate the two groups," said Nolan. "We now have a target for control procedures. With this gene, new vaccines and diagnostic tools can be designed to better control the disease of avian colibacillosis."

Nolan said additional work has discovered the gene also occurs in the more serious forms of calf scours and in some *E. coli* cases involving humans. "We think the research may have widespread potential beyond what we hoped originally. We are excited about it," Nolan said.

Another of the new patents involves a protective coating made from crops such as soybeans, sunflowers and linseed. The oil-based coating, which is part ceramic and part organic polymer, was developed by Mark Soucek, associate professor of polymers and coatings and project lead scientist, and Chad Wold, graduate student. The patent was awarded Aug. 1.

"We've found these ceramer coatings outperform most state-of-the-art coatings as corrosion-resistant primers," Soucek said. "The cost advantage is huge. Seed oils are less than 20 cents per pound, so we can give high performance at one-third the price."

Soucek said the coating has been shown effective for many uses, including coating gravel and construction re-bar, electronic applications and making leather scratch resistant. He said the coating offers a potentially significant value-added product for North Dakota agricultural producers.

The third patent, issued June 27, involves a new method of preparing Beta-amino acids. The preparation method was developed by Mukund Sibi, professor of chemistry and project lead scientist; John J. Shay, post-doctoral fellow; Craig P. Jasperse, visiting professor from Minnesota State University Moorhead; and Mei Liu, graduate student.

Sibi said the method will increase understanding of basic biology and has potential uses in the pharmaceutical industry. In particular, Beta-amino acid is a component of a drug called "Taxol," which is being used against cancer.

FrontLine Leadership set for fall semester

FrontLine Leadership will be held Sept. 14–Dec. 14. For further information about the program, application procedure or funding, contact Jill Langston in the Office of Human Resources at 1-8525.

State of the University Address set for Sept. 7

President Chapman is scheduled to present the State of the University Address at 4 p.m. Thursday, Sept. 7, in Festival Concert Hall. All faculty, staff, students, alumni and friends are welcome to attend. A reception will immediately follow the address in the president's back yard.

Business Office to be closed Sept. 12

The Business Office will be closed Tuesday, Sept. 12 for financial aid disbursement. Departments are asked to hold their deposits until Wednesday, Sept. 13.

Next Issue

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"Taxol is a spectacular anti-tumor agent. It has a Beta-amino acid fragment, so everyone is interested in this kind of molecule. We have a method to make this compound in a general way," said Sibi. "We have a new invention for making some biologically important compounds and, hopefully, we can commercialize it."

Including the three latest patents, NDSU researchers now have developed technologies accounting for a total of 29 patents, with nine applications pending.

EPSCoR seeks faculty NIH coordinator

EPSCoR is in the process of selecting a faculty person to act as a coordinator for the anticipated National Institutes of Health Request for Proposal, which is expected this fall. The NIH coordinator will report to the North Dakota EPSCoR project director. ND EPSCoR will provide travel and staff funds. Due to conflict of interest, the NIH coordinator will not be able to participate in the COBRE proposal.

Criteria for the position include:

1. Prepare the infrastructure component if the RFP calls for it.
2. Organize and execute the review process leading to the selection of the COBRE submission from each campus.
3. If the infrastructure proposal is funded, the responsibilities of the coordinator will be negotiated with the EPSCoR Steering Committee.

To apply, faculty should send a letter of application describing the basis for their interest, a vita and three reference names with contact information to the ND EPSCoR office, P.O. Box 9039, Grand Forks, ND 58202. The application deadline is Thursday, Sept. 14.

Agricultural economics department changes name

The Department of Agricultural Economics has changed its name to the Department of Agribusiness and Applied Economics. The State Board of Higher Education approved the name change at its June meeting.

David K. Lambert, professor and chair of the department, said the new name signifies the increasingly important role of agribusiness to the region and the world.

"The name change reflects that our teaching and research programs address all aspects of the food system," he said. "Agricultural production is naturally a vital component of the agribusiness industry. However, the entire agribusiness industry accounts for one of every four jobs in the United States and represents 20 percent of the nation's economic activity. Agribusiness is a huge part of America's economy. This department has a long tradition in helping our students start careers in some of the leading firms in the industry. We have added new faculty to expand our skills in food safety, value-added processing, logistics, finance, and agri-sales and food marketing. We need to spread the word that we are not your grandfather's agricultural economics."

Lambert believes the adoption of the applied economics title recognizes the broad range of real-world problems addressed by the department's faculty. In addition to expertise in agribusiness, the department offers courses in international trade, natural resource and environmental economics, community and regional development, international studies and general economics.

"Decisions affecting the future of the Northern Plains must be based on sound economic analysis. This requires input from researchers having solid training in economics as well as the ability to apply this knowledge to real problems. We have always been applied economists," Lambert said.

In addition to approving the name change, the state board also approved a new bachelor of science degree with a major in agribusiness. The department continues to offer a bachelor of science degree in agricultural economics and a master's degree with options available in applied research, agricultural economics, agribusiness and transportation economics.

People

Kloberdanz named 'Notable North Dakotan'



Kloberdanz

The Bismarck Tribune recently named Timothy J. Kloberdanz, associate professor of sociology and anthropology, one of its 17 "Notable North Dakotans" for 2000.

Individuals singled out for the award included artists, athletes, business people, filmmakers, musicians, photographers and public servants. Kloberdanz was honored as a notable professor.

According to Tribune journalist Ken Rogers, Kloberdanz was recognized for his years of teaching, research and service in North Dakota. His career as an academic folklorist was given special attention, as was his work in identifying numerous German-Russian iron cross cemetery sites as national historic sites.

Rogers also commented on Kloberdanz's contributions in documenting shared traditions among North Dakota's diverse ethnic groups. Although Kloberdanz has focused on the Germans from Russia, he also has studied other ethnic groups throughout the Great Plains region and the American West.

In the article naming the notable citizens, Kloberdanz said, "Discovering and sharing traditions provides the rare opportunity to realize things we humans hold in common. Perhaps it is time we retrace some of the ancient stepping stones that lead us back to one another's camps, rather than seek out the stepping stones that lead us farther apart."

McIntyre, Kirschenman publish work in engineering journal

The American Society of Civil Engineers (ASCE) recently published a paper by Charles McIntyre, assistant professor of civil engineering and construction, and Merlin Kirschenman, professor emeritus of construction management and engineering.

The article, "A Survey of TQM in the Construction Industry in the Upper Midwest," appeared in the September/October issue of the Journal of Management in Engineering.

The authors conducted a survey of 1,500 construction firms to collect data concerning the application and use of Total Quality Management. The results of the survey indicate substantial economic benefits can be attained through the implementation of TQM techniques. McIntyre and Kirschenman believe there are several key educational and operational issues that must be addressed prior to, and after implementing a TQM program.

NDSU delegates present session at Golden Key convention

The NDSU chapter of the Golden Key National Honor Society sent two delegates to the organization's international convention Aug. 3-6, in Los Angeles. Charles Cooper, 1999-2000 chapter president and a 2000 agricultural economics graduate, and Bonnie Cooper, chapter adviser and Graduate School disquisition editor, were among the approximately 1,300 delegates in attendance.

They presented a workshop titled "Mentor Dinners: An Activity to 'Set the Stage' for the Future." The session outlined a successful activity that allows chapter members and honorary members to meet, discuss issues and create networking opportunities.

Golden Key was founded in 1977. It recognizes students in all academic fields for their accomplishments. Juniors and seniors in the top 15 percent of their respective classes are invited to join. The society has 298 chapters in Australia, New Zealand, Puerto Rico, Canada, the Virgin Islands, Malaysia and the United States. The NDSU chapter was chartered in 1996.

Volleyball team receives academic award

The NDSU women's volleyball team was one of 140 colleges and high schools recognized on the 1999-2000 American Volleyball Coaches Association/Molten U.S.A. Inc. Team Academic Award.

With a 3.34 grade point average, NDSU was one of 13 NCAA Division II schools to earn the award. The team also received the award in 1996 and 1998.

The award honors college and high school teams that maintained at least a 3.30 team grade point average during the 1999-2000 school year.

Events

Annual ND EPSCoR conference set for Sept. 23

The North Dakota EPSCoR annual conference, "Research Opportunities and Infrastructure Development," is scheduled for 8 a.m.-2 p.m. Saturday, Sept. 23, at the University of North Dakota's Memorial Union Lecture Bowl, Grand Forks.

The half-day, no-cost conference features:

- Federal agencies program officers
- Funding opportunities
- Discussions with agency managers on new directions
- Lunch and break fare will be provided.

The scheduled keynote speaker will be Mary Jane Saunders, National Science Foundation, program director, Biological Infrastructure (BIO/DBI), "Instrument Development For Biological Research" Cluster Activities branch.

Free registration is available on the Web through Sept. 15 at www.ndsu.nodak.edu/epscor. For more information, contact David R. Givers at 1-7516.

Fall Round-Up set for Sept. 14

The annual Fall Round-Up for NDSU agriculture faculty and staff and their families is scheduled for Thursday, Sept. 14, in the Bison Sports Arena. The social will begin at 5:30 p.m. and dinner will be served at 6:30 p.m. All current and retired agriculture teaching, research and extension faculty and staff and their families are invited to attend.

Following a meal prepared by NDSU's Carnivore Caterers, entertainment is planned for adults and children. The NDSU Brass Ensemble, conducted by Neil Mueller, will perform. There also will be door prizes and weird science demonstrations by Don Carey, research specialist in entomology.

The event is sponsored by the College of Agriculture and coordinated by the Faculty Development Committee. Tickets are \$3 and must be purchased by Tuesday, Sept. 12. They are on sale in the College of Agriculture departmental offices and 315 Morrill Hall.

Radiation short course planned

A short course on the laboratory use of radioactive material is planned from 8 a.m.-noon Wednesday, Sept. 13, in the Memorial Union room 349. Steve Charlton, director of NDSU occupational safety and environmental health, will teach the course.

The class is designed for new or potential users of radioactive materials in the laboratory or field application. It also serves as a refresher course for those currently using radioactive materials.

Topics include basic theory of radioactivity; biological interactions with radiation; radiation protection; minimizing exposure level; rules and regulations; and safe handling, decontamination and lab procedures.

Employees of NDSU and cooperative agreement institutions will be charged \$25 for the course. Non-NDSU employees may participate for \$50. To register, call 1-7759.

Events planned for State Employee Recognition Week

State Employee Recognition Week is scheduled for Sept. 17-23. The Council of State Employees has scheduled events including a golf scramble and a family picnic.

The fourth annual golf scramble is planned for 1 p.m. Sunday, Sept. 17, at Prairiewood Golf Course. Participants' names will be drawn randomly and they will be placed on teams of three or four members. The cost of the round is \$10 per player, and refreshments and prizes will be given away. To register, contact Sharon Morgan at 1-7739 by Sept. 13.

A "Family Fun Night" picnic is scheduled for 4:30-7:30 p.m. Tuesday, Sept. 19, at Playmaker's Pavilion, Fargo. The evening will consist of food, face painting, children's games, door prizes, music and drawings.

Shorts and Reminders

Positions Available

Positions open and closing dates through the Office of Human Resources, Room 205, Old Main:

Reservations and Event Services Assistant/#4199
Memorial Union
\$15,960/year
Sept. 11

Reservations and Event Services Coordinator/#0776
Memorial Union
\$20,000+/year
Sept. 11

Library Clerk/#541
Library
\$15,000+/year
Sept. 7

Administrative Secretary/#4347
Multicultural Student Services
\$17,000/year
Sept. 12

Weekend Swing Cook
(nine-month part-time; non-benefited)
(Saturday-8 a.m.-4:30 p.m.; Sunday-10:30 a.m.-7 p.m.)
Dining Services – RDC
\$7.25/hour
Sept. 5

Food Service Worker/#1040
Dining Services – RDC
\$6.10/hour
Aug. 23 (internal); Sept. 7 (external)

PM Shift Supervisor/#3475
Dining Services – WDC
\$7.65 minimum/hour
Sept. 1 (internal); Sept. 8 (external)

Pizza Attendant/#4532
Dining Services – UDC
\$6.15 minimum/hour
Sept. 8 (internal); Sept. 22 (external)

Serials Acquisitions Associate/#514
Library - Technical Services
\$18,072+/year
Sept. 7

Recruit Police Officer
NDSU Campus Police
\$21,264/year
Sept. 14

Teacher Technician - Preschool Room/#0223
CDFFS/Center for Child Development
\$1,350 minimum/month (nine-month position)
Sept. 20

Associate Director/#715
Physical Plant
Salary dependent on qualifications
Sept. 7

Research Technician
Animal and Range Science
Salary commensurate with education and experience
Sept. 15

Research Specialist/#4792
Plant Pathology
\$23,000 minimum/year
Sept. 15

Information Specialist/#1963/2274
Ag Communication
\$25,500 minimum/year
Sept. 18

Research Specialist
Zoology
\$23,000 minimum/year
Oct. 1

Director
Center for Writers
Salary dependent on qualifications
Oct. 1

Position openings also are available through the NDSU Web site at www.ndsu.edu/hr/.

Research Opportunities

- Proposals for the NDSU Research Foundation's Research Development Support Program (RDSP) must be submitted to the Research Administration Office, 201K Old Main, by 5 p.m. Friday, Sept. 15. Information about the RDSP is available on the Web at www.ndsu.nodak.edu/ndsu/sizer/RDSP/rfp.html. Proposal instructions also are available in hard copy from the Research Administration Office; call 1-8045. Questions should be directed to Kay Sizer at 1-7035, or sizer@plains.nodak.edu.

- South Dakota EPSCoR and the National Science Foundation are sponsoring a "Social, Behavioral and Economic Sciences Conference on Funding Opportunities" Sept. 29, in Rapid City, S.D. William Butz, division director of social and economic sciences, will present an overview of the directorate. Program directors from the political science, economics, archeology, anthropology, and geography; linguistics, international programs, social psychology, and human cognition and perception divisions also will give specific presentations.

The ND EPSCoR Office is assessing the interest of researchers in attending the conference. EPSCoR would like to help support the cost. The final registration date is Sept. 8. Please respond, no later than Sept. 1, by e-mail to David_Givers@ndsu.nodak.edu, if you would like to attend.

• The Office of Research Administration in Old Main 201K announces the following funding opportunities and deadlines. For more information, call 1-8114; or refer to the given Web site or contact person. For information about other grants, check the Research Administration Web site at www.ndsu.nodak.edu/ndsu/sizer/resadmin.html and click on "Funding Opportunities."

**National Historical Publications and Records Commission
National Historical Publications and Records Grants
www.nara.gov/nhprc/deadline.html
Deadline: Oct. 1 and June 1**

The National Historical Publications and Records Commission, affiliated with the National Archives and Records Administration, supports a wide range of activities to preserve, publish and encourage the use of documentary sources relating to U.S. history. Eligible activities include collecting, describing, compiling and publishing significant historical documentary sources; conducting institutes, training and education programs and fellowships; and disseminating information about documentary sources through guides and directories. Public archives, universities, libraries, historical societies and other nonprofits are eligible to apply.

**National Science Foundation (NSF)
University-Industry cooperative Research Programs in
Mathematics
www.nsf.gov/pubs/2000/nsf00121/nsf00121.txt
Deadline: Nov. 13**

The National Science Foundation will fund university-industry postdoctoral research fellowships, senior research fellowships, graduate research assistantships and graduate cooperative fellowships to give mathematical scientists the experience of conducting research in an industrial environment and industrial scientists to return periodically to academia. The initiative's goals are to strengthen links between industry and academia by promoting exchanges and partnerships; identify and encourage new avenues of research involving relevance to technological and societal issues; encourage knowledge and technology transfer; broaden academic experiences of students and breadth of faculty; increase universities' awareness of workplace needs; and provide a more complete experience for students aspiring to enter the industrial work force.

**Energy Department
Office of Biological and Environmental Research
Microbial Genome Program
www.sc.doe.gov/production/grants/grants.html
Deadline: Oct. 2 (pre-applications); Dec. 14 (full proposals)**

The Energy Department's Office of Biological and Environmental Research is inviting applications in five focused areas of research on microbes involved in environmental processes, including waste remediation, carbon management, energy production, and biotechnology. Candidate organisms may compromise archaea, bacteria or communities of bacteria and/or archaea that mediate or catalyze metabolic events. The program will give preference to applicants using microbes for which complete or near-complete genomic sequencing information exists in the public domain. It will give priority to studies on microbes that can bioremediate metals and radionuclides, degrade significant biopolymers, such as cellulose, microbes involved in environmental carbon management and microbes in consortia with already sequenced species.

**Link Foundation
Energy Fellowship Program
www.linkenergy.org
Deadline: Dec. 1**

The Link Foundation's Energy Fellowship Program seeks to foster energy research, enhance both the theoretical and practical knowledge and application of energy research and to disseminate the results of that research through lectures, seminars, and publications. Awards will be made to doctoral students at academic institutions.

**Minnesota Wheat Research and Promotion Council
Proposals for New and Continuing Research
www.smallgrains.org/researchcommittee.htm
Deadline: Oct. 16**

The Minnesota Wheat Research and Promotion Council is accepting proposals for continuing and new research. Special consideration will be given to proposals which directly or indirectly help to significantly increase the profitability of wheat production. Proposals are not limited to production research.

**Bush Foundation
Leadership Fellows Program
Contact: (651) 227-0891
Deadline: Nov. 13**

The Bush Foundation is looking for accomplished, motivated individuals who are eager to prepare for greater leadership responsibilities within their professions and communities. Applicants propose educational programs to help attain goals they set for themselves. Fellowships range in length from two to 18 months. Grants are made for academic programs, self-designed study programs, or both. Applicants may be from any field. In the past, fields have included community service, education, government, health care, business, engineering, science, architecture, farming, forestry, law, trade unions, law enforcement, journalism and social work. *Note: An informational public meeting to provide potential applicants with an opportunity to learn more about the program and to ask questions will be held from 7-8:30 p.m. Thursday, Sept. 7, at the Fargo Public Library.*

Calendar

September

Through Sept. 13 NDSU Faculty and Staff exhibit, Memorial Union Gallery

Through Sept. 24 Studio/scholarship recipient exhibition, Reineke Visual Arts Gallery

State of the University Address, 4 p.m., Festival Concert Hall

Animal and Range Sciences—Larry Reynolds “Pericytes as Key Players in the Angiogenic Process as Regulated by NO and VEGF,” 3 p.m., Hultz 104

9 Football vs. Minnesota State-Moorhead, 7 p.m., Fargodome

9 Soccer vs. University of Minnesota-Duluth, 1 p.m., Ellig Sports Complex

12 USDA-ARS—Tony Chen, Oregon State University, “Molecular Genetic Analysis of Dormancy Related Traits in Populus,” 11 a.m., Biosciences Research Lab, large conference room

15-16 NDSU volleyball tournament

15-Oct. 15 Theodore Waddell exhibit, “15 Years of Prints,” Memorial Union Gallery

16 Studio/scholarship recipient exhibition reception, 7:30-8:30 p.m., Reineke Visual Arts Gallery

17 Soccer vs. Winona State, 1 p.m., Ellig Sports Complex

17 COSE golf scramble, 1 p.m., Prairiewood Golf Course

19 COSE “Family Fun Night Picnic,” 4:30-7:30 p.m., Playmaker’s Pavilion

22 Fubuki Daiko: Japanese Taiko Drums performance, 7:30 p.m., Festival Concert Hall; call 1-7969 for ticket information

22 Tony Miltich concert, 7:30 p.m., Memorial Union Gallery; \$6 general admission tickets available at Memorial Union ticket office

23 Soccer vs. University of North Dakota, 1 p.m., Ellig Sports Complex

23 Football vs. University of South Dakota, 7 p.m., Fargodome

24 Soccer vs. Truman State, 1 p.m., Ellig Sports Complex

26-Oct. 21 James Falck exhibition, Reineke Visual Arts Gallery

30 Football vs. UND, 1:30 p.m., Fargodome

30 Soccer vs. Minnesota State-Mankato, 1 p.m., Ellig Sports Complex

October

Through Oct. 15 Theodore Waddell exhibit, “15 Years of Prints,” Memorial Union Gallery

Through Oct. 21 James Falck Exhibition, Reineke Visual Arts Gallery

1 Soccer vs. St. Cloud State, 1 p.m., Ellig Sports Complex

6 Volleyball vs. South Dakota State, 7 p.m., Bentson Bunker Fieldhouse

7 Volleyball vs. Augustana College, 7 p.m., Bentson Bunker Fieldhouse

13 Reception for Theodore Waddell, 4-6 p.m., Memorial Union Gallery

13 Reception for James Falck exhibition, 7-8 p.m., Reineke Visual Arts Gallery

14 Homecoming football game vs. South Dakota State, 1:30 p.m., Fargodome

14 Soccer vs. Augustana College, 1 p.m., Ellig Sports Complex

15 Soccer vs. South Dakota State, 1 p.m., Ellig Sports Complex

23-Nov. 16 Linda Olson exhibit, “North American Rock Art,” Memorial Union Gallery

24 Volleyball vs. UND, 7 p.m., Bentson Bunker Fieldhouse

27 Volleyball vs. University of South Dakota, 7 p.m., Bentson Bunker Fieldhouse

28 Volleyball vs. Morningside College, 7 p.m., Bentson Bunker Fieldhouse

30 Advising week begins for spring semester

November

Through Nov. 16 Linda Olson exhibit, “North American Rock Art,” Memorial Union Gallery

4 Harvest Bowl football game vs. University of Northern Colorado, 1:30 p.m., Fargodome

6 Spring semester registration begins

**University Relations
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