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## ARD News October 2008

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# Agricultural Research Division News

October 2008

## Comments from the Dean

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### ARD Associate Dean and Associate Director

I am writing to bring you up to date on the Associate Dean and Associate Director of ARD search. As many and perhaps most of you may know, Dr. Z B Mayo will be retiring from his position as Associate Dean and Associate Director of ARD on November 1<sup>st</sup>. Those of you who have worked with and relied upon Z B to cheerfully and expertly guide you through the maze of paper work associated with federal and state regulations and university policies will miss his dedication and hard work on your behalf. I am certain no one will miss Z B more than I will. He has truly made my job possible through freely sharing his extensive knowledge of UNL, IANR and Nebraska agriculture.

Fortunately, Z B will be close by, at least for awhile, in case we need to draw upon his experience and expertise. Z B will be working part-time with Dr. Susan Fritz helping IANR strengthen its expanding international efforts.

While we originally intended to hire a full-time Associate Dean and Associate Director, having two highly qualified candidates in the same pool caused us to address some broader administrative needs in ARD. In the interview process, two candidates surfaced that we thought could contribute significantly to achieving the research, planning, accountability, and faculty development goals of ARD and IANR. While different, each candidate could fill an important aspect of the management and leadership goals.

Z B's retirement comes at a time when IANR and ARD are in a period of substantial growth and positive change. Increased CASNR enrollment and a more favorable UNL financial situation are allowing us to hire a significant number of new faculty and to substantially improve our research infrastructure. This is a unique opportunity for us to improve the already valuable information and education we provide the state of Nebraska, and to elevate our stature as an internationally-recognized research and education institution. To take full advantage of these opportunities, we must intensify our efforts to attract significant external funding for our research, particularly from federal agencies that support the work the state's citizens need us to do. This will not be an easy task, given the outlook for the federal budget in the near term and the highly competitive environment at the national level for peer-reviewed funding. Dr. Mayo's retirement also comes at a time

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of increased challenges to those we serve brought about by the increasing globalization of our economy, as well as increased national pressures for more accountability and the need to increase our productivity. These needs present workload challenges that cannot be adequately addressed within the current administrative structure. To continue our success, we will need to improve our research administration in two key areas.

As you know, the IANR strategic plan focuses on four major priorities to assist all of us in our vision to "serve Nebraska by providing internationally recognized science and education to assure the state's competitiveness in a changing world." The IANR strategic plan will be realized through unit and division plans that promote effective interdisciplinary efforts among units. Additionally, we must remain fully accountable as we make investments to accomplish our plans. These planning and accountability efforts will be a major responsibility of an Associate Dean and Associate Director.

We also need to work more closely with our new and existing faculty to ensure they are as successful as they can possibly be in developing competitive proposals and top quality, research programs. Obviously, these efforts must be a major responsibility of the academic units, and ARD also must help through internal funding, key contacts with funding agencies, and support of collaborative research efforts, especially across academic units. These faculty development activities will be a major responsibility of an Associate Dean and Associate Director.

By now, you have noticed that I just explained why I have chosen to replace one (1.0 FTE) Associate Dean and Associate Director, Z B Mayo, with two (1.6 FTE). Unlike Z B, each of the new Associate Deans will have a 0.2 FTE teaching assignment in their areas of expertise and, also unlike Z B, 50% of their salaries will be paid from ARD's portion of UNL F&A. This will allow us to have two Associate Deans playing key roles in advancing ARD's competitiveness as well as contributing to CASNR's teaching mission without significantly increasing our payroll supported by appropriated funds.

Therefore, I am pleased to announce that Dr. Deb Hamernik has accepted one of these important leadership roles in ARD. Dr. Hamernik currently is the National Program Leader for Animal Physiology, in the Animal Systems division of the Cooperative State Research, Education, and Extension Service (CSREES), USDA. She is an accomplished administrator and scientist. She served as the program director for the NRI Bovine Genome Sequencing Program, and the NRI Porcine Genome

Sequencing Program. Prior to coming to the USDA, she was a Scientific Review Administrator with the National Institutes of Health. She has held faculty positions at the University of Arizona and the University of Nebraska–Lincoln. She has a Ph.D. in Reproductive Endocrinology from Colorado State University, a M.S. in Animal Science from Washington State University, and a B.S. in Animal Science from the University of Nebraska–Lincoln.

I am equally pleased to announce that Dr. David Jackson, Professor, in our Department of Food Science and Technology has accepted the other key ARD leadership role. As many of you may be aware, Dr. Jackson also is an accomplished scientist with an extensive publication record, complemented by his record in obtaining external funds from a variety of governmental agencies and commodity groups, and a record reflecting leadership of and participation in multidisciplinary teams. He served as interim head of the Department of Food Science and Technology and also served as an administrative intern in the Agricultural Research Division. Dr. Jackson has Ph.D. and M.S. degrees in Food Science and Technology from Texas A&M University, and a B.S. in Food Science from Cornell University.

Dr. Hamernik, who plans to arrive here on March 1, 2009, and Dr. Jackson, who will begin his new assignment on October 20, 2008, will improve our research administration team and will help position UNL to take full advantage of IANR's new hires and infrastructure investments to build our research portfolio and better serve Nebraska and its people.

Gary Cunningham  
Dean and Director

## New or Revised Projects July and August 2008

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**NEB 21-143 Improving the safety of prepared, but not ready-to-eat, microwaveable foods through heat transfer and pathogen destruction modeling**

*Investigator:* Jeyamkondan Subbiah, Biological Systems Engineering

*Status:* Grant project effective Sept. 1, 2008, through Aug. 31, 2011

**NEB 21-144 Improved prediction of infiltration and overland runoff in Nebraska's watershed**

*Investigator:* Dean Eisenhauer, Biological Systems Engineering  
*Status:* Hatch project effective July 1, 2008, through June 30, 2013

**NEB 21-146 Engineering nonviral gene delivery through extracellular interactions and intracellular signaling**

*Investigator:* Angela Pannier, Biological Systems Engineering  
*Status:* Hatch project effective Oct. 1, 2008, through Sept. 30, 2012

**NEB 22-333 Enhancing the economic potential of producing biofuels from sweet sorghum**

*Investigator:* Ismail Dweikat, Agronomy and Horticulture  
*Status:* Special Grant project effective July 1, 2008, through

June 30, 2011

**NEB 22-334 Water use of weeds between harvest and planting in a corn-soybean cropping system**

*Investigator:* Mark Bernards, Agronomy and Horticulture  
*Status:* Hatch project effective Aug. 1, 2008, through July 31, 2013

**NEB 28-098 Management of emerging insect pests in Nebraska corn and soybeans**

*Investigator:* Robert Wright, Entomology  
*Status:* Hatch project effective Aug. 1, 2008, through July 31, 2013

**NEB 28-099 S-1039, Biology, impact, and management of soybean insect pests in soybean production systems**

*Investigator:* Leon Higley, Entomology  
*Status:* Multistate project effective Mar. 1, 2008, through Sept. 30, 2012

**NEB 31-113 Alliance for Food Protection, Nebraska**

*Investigator:* Stephen Taylor, Food Science and Technology  
*Status:* Special Grant project effective Aug. 1, 2008, through July 31, 2009

**NEB 31-114 Midwest Advanced Food Manufacturing Alliance**

*Investigator:* Rolando Flores, Food Science and Technology  
*Status:* Special Grant project effective July 1, 2008, through June 30, 2009

**NEB 31-115 The Third Governors Conference on Ensuring Food Safety: *E.coli* 0157:H7 progress and challenges**

*Investigator:* Andrew Benson, Food Science and Technology  
*Status:* NRI Grant project effective June 1, 2008, through Sept. 30, 2008

**NEB 31-116 Pyrosequencing and community profiling for risk assessment in leafy greens**

*Investigator:* Andrew Benson, Food Science and Technology  
*Status:* NRI Grant project effective Sept. 1, 2008, through Aug. 31, 2010

**NEB 35-111 Manipulation and delivery of bacterial endophytes for enhanced plant productivity**

*Investigator:* Anne Vidaver, Plant Pathology  
*Status:* Interdisciplinary project effective July 1, 2008, through June 30, 2010

**NEB 36-070 Vitamin content of value cuts from beef steers fed wet distiller grains with and without added vitamin E**

*Investigator:* Judy Driskell, Nutrition and Health Sciences  
*Status:* Hatch project effective July 1, 2008, through June 30, 2013

**NEB 36-071 The impact of human resources, policies and practices on the motivation and employee turnover intent in the hospitality industry**

*Investigator:* Robin DiPietro, Nutrition and Health Sciences  
*Status:* Hatch project effective July 1, 2008, through June 30, 2013

**NEB 38-063 Drought mitigation, Nebraska project**

*Investigator:* Michael Hayes, School of Natural Resources  
*Status:* Grant Special project effective July 17, 2008, through July 14, 2009

**NEB 38-064 Radiative transfer in vegetative canopies with emphasis on canopy structure**

*Investigator:* Elizabeth Walter-Shea, School of Natural Resources  
*Status:* Hatch project effective Aug. 1, 2008, through July 31, 2013

**NEB 38-065 Remote sensing of the biophysical properties of crops and grasslands**

*Investigator:* Anatoly Gitelson, School of Natural Resources  
*Status:* Hatch project effective July 1, 2008, through June 30, 2013

**NEB 38-066 Impacts of changes in climate and land use on water resources and terrestrial ecosystems in the Midwestern U.S.**

*Investigator:* John Lenters, School of Natural Resources  
*Status:* Hatch project effective Sept. 1, 2008, through Aug. 31, 2013

**NEB 39-148 Tricarboxylic acid cycle mediated regulation of staphylococcal biofilm formation**

*Investigator:* Greg Somerville, Veterinary and Biomedical Sciences  
*Status:* Interdisciplinary project effective July 1, 2008, through June 30, 2010

**NEB 39-149 Functional analysis of blCO, a BHV-1 gene that stimulates productive infection**

*Investigator:* Clinton Jones, Veterinary and Biomedical Sciences  
*Status:* NRI Grant project effective Sept. 1, 2008, through Aug. 31, 2011

**NEB 43-107 Irrigation management with limited water supplies**

*Investigator:* Dean Yonts, Panhandle Research and Extension Center  
*Status:* Hatch project effective June 1, 2008, through May 30, 2013

## Proposals Submitted for Federal Grants July and August 2008

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The following is a listing of proposals that were submitted during July and August 2008 by faculty for federal grant programs. While not all grants will be funded, we are appreciative of the faculty members' outstanding efforts in submitting proposals to the various agencies.

**Walter Schacht, Rhae Drijber and Larkin Powell** – USDA/CSREES (SARE) – Sustainable Rangeland Management – \$349,377

**James Van Etten, David Dunigan, Ming Kang, Michael Fromm, Jean Riethoven and Yuannan Xia** – NIH – New Tools for Algae and Their Viruses – \$1,292,608

**Drew Lyon** – USDA/SBIR – Camelina Herbicide Research – \$6,955

**Xiao Zeng, Ruqiang Feng and Dennis Diestler** – NSF – Modelling of multiscale processes – \$505,270

**Leon Higley** – U.S. Fish and Wildlife Service – Pilot rearing and reintroduction program for the Salt Creek Tiger Beetle, *C. nevadica lincolniana* – \$119,490

**Julie Stone** – NSF – The role of a transcriptional regulator (AtSPL14) in programmed cell death-related plant development – \$589,636

**Erkan Istanbuluoglu, David Wedin and David Loope** – NSF – Vegetation and sand dunes – \$252,516

**Angela Pannier** – NSF – CAREER: Engineering the extracellular matrix for nonviral gene delivery – \$516,807

**You Zhou and Merlyn Nielsen** – Army Research Office – Genetic affect on hippocampal function in mice with inherited stress disorders – \$888,844

**Anatoly Gitelson and Donald Rundquist** – NASA – Remote pigment assessment in inland and estuarine waters – \$797,107

**Mark Svoboda and Brian Wardlow** – NASA – Southeast climate consortium delineate drought and its impact on agriculture and water resources – \$44,610

**Brian Wardlow** – NASA/ROSES – Creation of the Rangeland Ecological Land Monitoring (RELM) Portal – \$79,386

**Donald Becker and Julie Stone** – NSF – REU Site: Training in Redox Biology – \$252,250

**George Graef** – USDA/ARS – Sclerotinia resistance enhanced by accumulation of QTL transgenic approaches – \$38,756

**Scott Hygnstrom** – USDA/CSREES – On-line decision tools for prescribing fences to protect specialty crops susceptible to contamination by free-ranging wildlife – \$962,144

**Scott Hygnstrom** – USDA/CSREES – Protecting specialty crops for wildlife damage through extension educational programs – \$188,566

**Ellen Paparozzi** – USDA/CSREES – Strawberried in winter: Enhancing heartland agriculture – \$364,635

**Anne Vidaver** – USDA/CSREES – Developing a national recovery plan for gumming disease of grasses and ryegrass toxicity, caused by *Rathayibacter toxicus* – \$19,700

**Scott Hygnstrom** – USDA/APHIS – Evaluation of novel fences for containing or excluding feral hogs – \$50,000

**Alexander Pavlista** – USDA/CSREES/SCRI – Nutrient uptake and utilization efficiency in potato – \$179,478

**James Steadman** – USDA/CSREES/SCRI – Bean disease alliance-improving the competitiveness of beans – \$3,135,289

**Robert Shearman and Tiffany Heng-Moss** – USDA/CSREES/SCRI – Enhanced understanding and adoption of buffalograsses an alternative turfgrass through plant breeding – \$950,038

**Fred Baxendale** – USDA/CSREES/SCRI – Innovative chemical ecology-based strategies for control of invasive and native scarab beetles in specialty crops – \$56,554

**Jeyamkondan Subbiah, Harshavardhan Thippareddi, Milford Hanna, Vicki Schlegel, Paul Read, Richard Perrin and David Rickert** – USDA/CSREES/SCRI – Improving profitability by extracting bioactive and high-value ingredients from winery co-products using novel processing technologies – \$804,247

**Gustavo Sbatella, Robert Wilson, John Smith and Carlos Urrea** – USDA/CSREES/SCRI – A new dry edible bean production system that integrates reduced tillage and direct harvest – \$545,784

## Grants and Contracts Received for July and August 2008

### Agronomy and Horticulture:

<b>Peter Baenziger and Ismail Dweikat</b> – Nebraska Wheat Board	\$15,000.00
<b>Peter Baenziger, Gary Hergert and Lan Xu</b> – Nebraska Wheat Board	\$75,000.00
<b>Ismail Dweikat</b> – USDA/CSREES	\$138,898.00
<b>Roch Gaussoin</b> – Department of Energy	\$15,000.00
<b>Lenis Nelson</b> – Nebraska Wheat Board	\$12,000.00
<b>Paul Staswick</b> – NSF	\$249,969.00
<b>Lan Xu and Peter Baenziger</b> – Nebraska Wheat Board	\$50,000.00
Miscellaneous grants under \$10,000 each	\$129,747.00

### Animal Science:

<b>Chris Calkins</b> – National Cattlemen's Beef Association	\$34,620.00
<b>Andrea Cupp and Jennifer Wood</b> – DHHS/NICHD	\$253,412.00
<b>Galen Erickson, Terry Klopfenstein, Judson Vasconcelos and Leslie Stalker</b> – Nebraska Corn Board	\$125,000.00
<b>Terry Klopfenstein, Galen Erickson and David Smith</b> – Nebraska Ethanol Board	\$12,500.00
<b>Terry Klopfenstein, Galen Erickson and David Smith</b> – Nebraska Beef Council	\$50,000.00
<b>Paul Kononoff</b> – Nebraska Corn Board	\$35,855.00
<b>Sheila Scheideler</b> – Nebraska Corn Board	\$32,049.00
Miscellaneous grants under \$10,000 each	\$2,500.00

### Biochemistry:

<b>Donald Becker</b> – NIH	\$282,829.00
<b>Vadim Gladyshev</b> – NIH	\$276,444.00
<b>Vadim Gladyshev</b> – NIH	\$286,724.00
<b>Vadim Gladyshev</b> – NIH	\$2,117,434.00

### Biological Systems Engineering:

<b>Jeyamkondan Subbiah, David Jones and Harshavardhan Thippareddi</b> – USDA/CSREES	\$599,985.00
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### Entomology:

<b>Tiffany Heng-Moss and Thomas Hunt</b> – North Central Soybean Board	\$62,714.00
<b>Blair Siegfried</b> – Syngenta	\$10,143.00
<b>Blair Siegfried</b> – Institut National de la Recherche Agronomique	\$19,695.00
Miscellaneous grants under \$10,000 each	\$66,650.00

### Food Science and Technology:

<b>Rolando Flores</b> – USDA/CSREES/SRGP	\$340,764.00
<b>Steve Taylor</b> – USDA/CSREES/SRGP	\$121,305.00

### Industrial Agricultural Products Center:

<b>Milford Hanna, Yixiang Xu and Scott Josiah</b> – Nebraska Department of Agriculture	\$25,000.00
<b>Milford Hanna, Yixiang Xu</b> – Nebraska Corn Board	\$34,032.00

### Northeast Research and Extension Center:

Miscellaneous grants under \$10,000 each	\$40,850.00
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### Panhandle Research and Extension Center:

<b>Linda Boeckner</b> – Nebraska Dry Bean Commission	\$32,000.00
<b>Robert Harveson</b> – Nebraska Department of Agriculture	\$10,736.00
<b>Gary Hein</b> – Nebraska Wheat Board	\$16,860.00
<b>Carlos Urrea</b> – Nebraska Dry Bean Commission	\$40,000.00
Miscellaneous grants under \$10,000 each	\$125,144.00

### Plant Pathology:

<b>James Van Etten</b> – NIH	\$297,635.00
Miscellaneous grants under \$10,000 each	\$36,510.00

### School of Natural Resources:

<b>Tadd Barrow and John Holz</b> – Nebraska Department of Environmental Quality	\$54,560.00
<b>Anatoly Gitelson</b> – NASA	\$199,442.00
<b>F. Edwin Harvey</b> – Nebraska Game and Parks Commission	\$196,140.00
<b>Michael Hayes, Cody Knutson and Brian Wardlow</b> – USDA/CSREES/SRGP	\$347,246.00
<b>John Holz and Aris Holz</b> – Nebraska Department of Environmental Quality	\$149,888.00

<b>John Holz and Tadd Barrow</b> – Nebraska Department of Environmental Quality	\$29,744.00
<b>Kenneth Hubbard</b> – Nebraska Department of Natural Resources	\$50,000.00
<b>Cody Knutson, Mark Svoboda and Jae Ryu</b> – NOAA	\$115,436.00
<b>Susan Lackey, Robert Joeckel, Paul Hanson and Jerry Ayers</b> – Lower Platte Natural Resources District	\$43,588.00
<b>James Merchant</b> – Nebraska Office of the Chief Information Officer	\$260,870.00
<b>Jim Merchant and Chad Boshart</b> – Nebraska Emergency Management Agency	\$83,731.00
<b>Mark Pegg</b> – National Park Service	\$11,581.00
<b>Mark Pegg</b> – NGPC	\$179,081.00
<b>Kevin Pope</b> – Nebraska Game and Parks Commission	\$45,576.00
<b>Durelle Scott</b> – Nebraska Department of Natural Resources	\$433,960.00
<b>Mark Svoboda, Meghan Sittler, Kelly Smith, Cody Knutson and Donna Woudenberg</b> – NOAA/SARP	\$288,670.00
<b>Mark Svoboda</b> – NOAA	\$165,409.00
<b>Shashi Verma, Timothy Arkebauer and Daniel Walters</b> – Consortium-Agricultural Soil Mitigation of Greenhouse Gases	\$50,000.00
Miscellaneous grants under \$10,000 each	\$8,631.00

**Veterinary and Biomedical Sciences:**

<b>Fernando Osorio and Asit Pattnaik</b> – CSREES/USDA/ NRI/GP	\$375,000.00
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**West Central Research and Extension Center:**

Miscellaneous grants under \$10,000 each	\$13,000.00
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<b>TOTAL:</b>	<b>\$9,176,557.00</b>
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