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INSTITUTE OF AGRICULTURE AND NATURAL RESOURCES
University of Nebraska Lincoln
Agricultural Research Division News

April 2008 Volume 41, Number 2

Comments from the Dean

I hope that many of the readers of this newsletter will recall that ARD staff revised our "Service Objectives" and reaffirmed our intent to provide the best possible service to individual faculty and IANR units in February 2007. If you do not recall, click on "ARD Service Objectives" under Policies on the ARD Web page or read on in this issue of the newsletter.

To ensure that we continue to meet these objectives and provide the service you deserve, we have made a few changes in the ARD office staff in the past few months. I have asked Dan Duncan to work in the ARD Office on a full-time basis as ARD Assistant Dean and Director. Dan has worked in the office on a part-time basis in the past. Dan will focus on the non-academic issues involved in running the office. He will continue to work with several commodity boards, the Barta Brothers Ranch and intellectual property activities. The Acting Director of the ARDC and the Director of Husker Genetics (Foundation Seed Division) will report to Dan. Additional administrative duties assigned to Dan include working with faculty to further develop research land, assisting the foundation in working with potential land donors and special projects in the ARD and Vice Chancellor's office. Dan has also agreed to be the IANR representative to the Nebraska Statewide Arboretum and the Nebraska Ag Leadership Council.

Debra Carlson was recently hired to fill the position vacated by Nancy Shoemaker as clerical associate. Deb's responsibilities are to provide front-line administration support to the Dean's office, especially to Dan Duncan, Assistant Dean and Director. She will be processing travel authorizations and expense vouchers as well as coordinating the IANR research travel program. She will also be processing forms for recording industry income and performing a variety of other duties that will assist the support staff with various projects.

Thanks to all of you for your cooperation and understanding. It is a great pleasure for all of us in the ARD office to serve and support you in the good work you do.

Gary Cunningham
Dean and Director

Layman Awards

IANR faculty submitted 12 proposals for funding by the Layman Trust. A subcommittee of the ARD Advisory Council carefully evaluated each proposal and ranked the submissions in relation to quality of science and the potential impact of the proposed research. There were 12 proposals forwarded to the Vice Chancellor for Research.

The primary aim of the Layman Awards is to provide seed money to enhance the possibility of obtaining external support for the research project. Only untenured faculty or tenured faculty who have not yet received an external grant are eligible for the program.

Six of the 12 proposals submitted to the Vice Chancellor for Research were funded:

Julie Stone, Biochemistry Department
"Positional Map-based Cloning of Arabidopsis Thaliana Fumonisin B1-Resistant Genes"
Total Amount Received: $10,000
Funding Period: May 1, 2008 - April 30, 2009

Angela Pannier, Biological Systems Engineering
"Engineering Intracellular Signaling Pathways for Nonviral Gene Delivery"
Total Amount Received: $10,000
Funding Period: May 1, 2008 - April 30, 2009

Ming Kang, Plant Pathology Department
"Gene Transformation of Two Model Microalgae, Chlorella and Coccomyxa: Towards Both the Genetic Manipulation and Bioenergineering Application"
Total Amount Received: $10,000
Funding Period: May 1, 2008 - April 30, 2009

Ayse Irmak, School of Natural Resources
"Estimating Riparian Water Use: An Application of Remote Sensing Technology"
Total Amount Received: $10,000
Funding Period: May 1, 2008 - April 30, 2009

The University of Nebraska-Lincoln does not discriminate based on gender, age, disability, race, color, religion, marital status, veteran's status, national or ethnic origin or sexual orientation.

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IANR

Jinsheng You, School of Natural Resources
"Interactions Among Climate Forcing, Soil Water, and Groundwater for Enhanced Water Management Practices in Nebraska"
Total Amount Received: $10,000
Funding Period: May 1, 2008 - April 30, 2009

Jay Reddy, Veterinary and Biomedical Sciences
"The Role of Cytokines in Generic - Associated Autoimmunity"
Total Amount Received: $10,000
Funding Period: May 1, 2008 - April 30, 2009

ARD "Service Objectives"

In the February 1992 issue of ARD News, we first published the ARD "Service Objectives." The ARD staff have attempted to adhere to the objectives since that time. We have recently revised the "Service Objectives" and are providing them to ARD-affiliated faculty and staff to reaffirm our intent to provide the best possible service to individual faculty and IANR units.

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All Agricultural Research Division (ARD) administrators and office **personnel** believe that their role is to provide support and service to the research programs of units and faculty members. We will continually strive to enhance the effectiveness of all research projects to the greatest extent possible. One means of assisting the research efforts of faculty members, graduate students and support staff is to provide the highest level of administrative services possible. We are committed to excellence in administration and, hereby, establish the following "Service Objectives."

Office Personnel Commitments

- The following forms will be processed, signed and forwarded to the appropriate office/unit either the same day or the morning of the following day (in some cases additional processing may occur in Agriculture Hall before forms are returned to the unit or sent to City Campus):
  - Position descriptions
  - Personnel requisitions and related documents
  - Proposals to interview
  - Personnel Action Forms (PAFs)
  - Reimbursement vouchers
  - Research Council proposals/requests
  - IANR Professional Development requests
  - Permission to engage in outside professional activity
  - Travel Authorizations
  - NU Grants - Approval request
  - Graduate faculty nominations
  - Other routine documents
- Telephone calls will be handled in a courteous and helpful manner. Telephone messages will be relayed as soon as the person returns or can be contacted.
- E-mail correspondence will be answered in a timely manner, normally the day of receipt.
- Efforts will be made to initiate scheduling project reviews within three working days after the research project outline arrives in ARD. The time that the review is conducted depends upon the availability of review committee members and department heads.
- ARD works with the grants.gov electronic proposal submission process and is committed to assist PI's with processing as necessary.
- All grant proposals, whether federal or private, will be processed and forwarded to either Sponsored Programs or USDA agencies as appropriate within eight working hours after receipt in ARD.
- Processing of revised project outlines and AD 416/417 CRIS Forms will be initiated within three working days after arrival in ARD.
- Processing of cooperative agreements and contracts will be initiated within three working days after arrival in ARD.

Administrator Commitments

- Except in the most extreme circumstances, someone with ARD signature authority will be available every working day. Under no circumstance will there be more than one consecutive working day without this capability.
- RFPs will be sent to units within two working days after ARD receipt.
- Recurring RFPs will be anticipated and preliminary notice sent to units at least thirty days prior to the proposal deadline.
- Rationale for funding decisions will be communicated to unit administrators.
- All priority incoming mail will be processed as soon as possible and acknowledgments/responses will be sent within five working days.
- All telephone calls and e-mail to a specific individual will be returned within twenty-four hours after the person returns to the ARD office. Callers or senders will be notified of the time of return and be offered redirection of the call.
- Decisions or priority rankings on proposals for "local" grant programs (i.e., Layman Fund, UN Foundation, ARD Interdisciplinary Research, Elliott Fund, Sampson Fund, etc.) will be made within two weeks after deadline for receipt of proposals. Feedback will be provided to all funded and non-funded authors.
- Decisions on recipients for ARD awards will be made within two weeks after deadline for nominations.
- Decisions regarding allocation of "new" resources (i.e., equipment funds, operating, hourly, and GRA stipends) will be made within two weeks after deadline for receipt of proposals from units. Decisions requiring joint decisions by divisions/college may require a longer period of time.
- Administrators will maintain an "open door" policy. We will be pleased to meet with any faculty or staff member or unit administrator at any time our schedule permits.
- Administrators will provide appropriate accountability on all funds.
- The ARD will strive to provide high-quality outreach materials suitable for a variety of audiences and clientele. Materials will emphasize impact and outcomes.
- Administrators will develop and communicate reasonable, attainable research productivity goals for units and faculty.

- Administrators will value, promote and support interdisciplinary research teams.
- Administrators will support faculty participation in regional research projects.
- Administrators will provide appropriate programs to support the graduate and undergraduate education of students interested in research careers.

Revised: November 2005
Revised: February 2007

New or Revised Projects January and February 2008

NEB 26-186 W-2177, Enhancing the competitiveness and value of U.S. beef
Investigator: Chris Calkins, Animal Science
Status: Multistate project effective Oct. 1, 2007, through Sept. 30, 2012

NEB 26-187 NC-1037, Genetic and functional genomic approaches to improve production and quality of pork
Investigator: Rodger Johnson, Animal Science
Status: Multistate project effective Oct. 1, 2007, through Sept. 30, 2011

NEB 28-093 Biodiversity of new world scarabaeidae (Insecta: Coleoptera)
Investigator: Brett Ratcliffe, Entomology
Status: Hatch project effective Feb. 1, 2007, through Jan. 31, 2013

NEB 30-112 NC-1168, Regulation of photosynthetic processes
Investigator: Robert Spreitzer, Biochemistry
Status: Multistate project effective Oct. 1, 2007, through Sept. 30, 2012

NEB 38-058 Exchange of carbon dioxide and other atmospheric trace gases in vegetated ecosystems
Investigator: Shashi Verma, School of Natural Resources
Status: Hatch project effective April 1, 2008, through March 31, 2013

NEB 43-105 NC-7, Conservation, management, enhancement and utilization of plant genetic resources
Investigator: Gary Hergert, Panhandle Research and Extension Center
Status: Multistate project effective Oct. 1, 2007, through Sept. 30, 2012

Proposals Submitted for Federal Grants January and February 2008

The following is a listing of proposals that were submitted during January and February 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.

Robert Wilson – Michigan State University-USDA – Interregional research project #4 minor crop pest management program for North Central Region – $4,500

Ji-Young Lee – USDA – Modulation of high-density lipoprotein metabolism by fatty acids – $496,009

Robert Oglesby, Karina Schoengold, Vitaly Zlotnik, Erkan Istanbulluoglu and James Williams, Jr. – NSF – Climate, water, and agriculture – $1,394,462

Harshavardhan Thippareddi – Texas A&M University-USDA-NRI – Research and extension efforts to reduce prevalence and antibiotic resistance of foodborne pathogens – $79,987

Steven Thomas – University of California, Riverside – FIBR: Linking genes to ecosystems – $80,248

Julie Albrecht – USDA-CSREES – Does misting increase the microbial load in retail produce? – $599,849

Sunil Narumalani – National Park Service – Assessment of natural resources for the Niobrara National Scenic River and Mount Rushmore National Memorial – $20,000

Erkan Istanbulluoglu – NSF – Collaborative research: On the topographic imprint of aspect: Deciphering the control of aspect on landforms in central New Mexico – $115,598

Jeyamkondan Subbiah, David Jones and Harshavardhan Thippareddi – USDA-CSREES-NIFSI – Improving the safety of prepared, but not ready-to-eat microwavable foods through heat transfer and pathogen destruction modeling – $599,985

Thomas Burkey, Jens Walter, Robert Hutkins, Duane Reese and Rodney Moxley – USDA-CSREES-NIFSI – A function driven approach to develop a symbiotic approach for the reduction and control of salmonella in pigs – $599,015

Janos Zempleni – University of Arizona for Medical Sciences (Subcontract) – The role of biotin in birth defects – $99,858

Milford Hanna and Yixiang Xu – USDA-CSREES-NRI – A novel two-phase coaxial jet electrospray technique for encapsulation of bioactive food ingredients – $194,880

Steven Harris – NSF – Evolutionary genetics of morphogenetic regulatory systems in fungi – $392,465

Stevan Knezevic – NCR-SARE – Determining effective propane dose for weed flaming in row-crops – $9,975

Marilynn Schnepf – USDA-CSREES – Bridging the gap between science and art - a research-based online course to improve the success rate of undergraduate culinology students – $132,188

Julie Stone and Mark Wilson – NSF – The universal stress-response DJ-1 superfamily: Functional and biochemical analyses in photosynthetic organisms – $584,816

Jim Brandle – NCR-SARE – Development of a healthy farm index to measure and restore ecological function to organic and sustainable farms in Nebraska's four agroecoregions – $9,183

Robert Hutkins, Randy Wehling and Vicki Schlegel – USDA-NRI – Assessing and enhancing stability of prebiotics in processed foods – $493,807

Charles Francis – NCR-SARE – Economic sustainability of conventional and organic crop rotations – $10,000

Michael Fromm – NSF – MRI acquisition of a high throughput DNA sequencing system – $893,020

George Graef – Virginia Polytechnic Institute and State University (NSF) – Genetic specification of a soybean plant: from genome sequence to traits – $65,814

Jeyamkondan Subbiah, Chris Calkins and Ashok Samal – USDA-NRI – A hyperspectral imaging system to forecast beef tenderness – $499,947

Janos Zempleni – Oklahoma University Health Sciences Center – Epigenetic silencing mechanisms of endogenous retroviruses by a novel histone modification – $132,818

Maureen Todd and Yan Xia – North Central Region-Sustainable Agricultural Research and Education – Eat your vegetables and turn off the faucet!: Community perceptions of sustainable agriculture – $9,826

Curtis Weller, Timothy Carr, Susan Cuppett and Vicki Schlegel – USDA-NRI – Process influences on fate and bioactivity of lipid compounds from whole-grain sorghum – $406,453

Charles Francis – USDA-SARE – Soil fertility and weed management in long-term conventional and organic crop rotations – $10,000

Yiqi Yang and Narendra Reddy – USDA-CSREES with Nebraska Corn Board – High quality agriculturally-based fibers to begin replacing petroleum-based fibers within the next 10 years – $463,919

Richard Ferguson, Mark Bernards, Suat Irmak, Dean Eisenhauer, Tamra Jackson, Robert Wright and Matthew Stockton – USDA-CSREES – Cropping system impacts on water use efficiency for corn production in the upper Big Blue river basin – $369,143

Ismail Dweikat, Kenneth Cassman, Donald Weeks and Thomas Clemente – Department of Energy-USDA – Nitrogen use efficiency of grain and sweet sorghum – $877,653

Vadim Gladyshev – DHHS-National Institute on Aging – Methionine sulfoxide reduction, selenium and aging – $1,722,017

Paul Staswick – University of North Carolina (NSF) – How auxins control seeding growth – $170,923

Yan Xia, John DeFrain, Julie Johnson and Marjorie Kostelnik – USDA-CSREES – Building an international child, youth and family studies consortium through collaborative research, teaching and outreach – $99,978

Ayse Irmak – NASA – On the assessment of land surface energy fluxes using in-site and remotely sensed data – $590,864

Marion Ellis and Blair Siegfried – University of Georgia-USDA – Sustainable solutions to problems affecting health of managed bees – $140,000

James Van Etten, David Dunigan, Bradley Plantz, Kenneth Nickerson, Vicki Schlegel, Ismail Dweikat and Blair Siegfried – Department of Energy-EPSCoR – Alkaline-active enzymes for enhancing lignocellulose-derived biofuels and bioproducts – $3,344,029

Janos Zempleni – NIH – Novel histone biotinylation sites and relationships to other epigenetic marks – $534,448

Peter Baenziger – USDA-CSREES – Plant Breeding Workshop – $5,000

Sally Mackenzie, Alan Christensen, Thomas Elthon and Dong Wang – NSF – TRMS: An integrative study of plant mitochondrial biology – $1,395,604

Andrea Cupp and Jennifer Wood – DHHS-NICHD – Role of VEGFA isoforms in follicular development – $1,587,372

Carlos Urrea – USDA-Horticulture and Sugar Crops CGC – Drought tolerance in dry beans – $7,000

Stephen Wegulo – USDA-ARS – Integrated management and prediction of fusarium head blight and DON in winter wheat – $42,037

Stephen Kachman and Kathryn Hanford – USDA-BARC-CSREES – Implementation of whole genome selection in the U.S. dairy and beef cattle industries – $129,920

Gilles Basset – USDA-NRI – Redox status and stability of vitamin K1 in tomato – $392,979

Robert Joeckel – University of Maryland-NFS – Bio-cementation of soils through ureolysis: Developing novel and sustainable low-impact engineering practices – $81,044

Carlos Urrea – North Dakota State University (USDA-NRI) – Drought tolerance in dry beans – $122,551

Janos Zempleni – NIH – Biotin sensing and chromatin remodeling by holocarboxylase synthetase – $869,400

Greg Somerville – UNMC – Antibiotic pressure and selection of TCA cycle mutants in staphylococcus epidermidis – $60,702

Kyle Hoagland – Department of Interior-GS – USGS Nebraska Water Resource 104B 2008 – $277,741

Jens Walter, Andrew Benson and Robert Hutkins – NSF-USDA – Comparative genomics of lactobacillus reuteri: Investigation of the evolutional history and ecological functionality of a gut symbiont – $765,311

Gary Yuen – USDA-ARS – Biological and cultural control of fusarium head blight – $21,885

Suat Irmak – USDA-NRCS-CIG – Integration of subsurface drip-irrigation and evapotranspiration information to conserve water for corn, soybeans, and wheat cropping systems – $349,486

Janos Zempleni – National Diabetes and Digestive Diseases – Biotin status in pregnancy – $126,378

Ayse Irmak – USDA-NRCS – Estimation of regional evapotranspiration: A remote sensing technology – $225,624

Grants and Contracts Received for January and February 2008

Agronomy and Horticulture:	
Stephen Baenziger – USDA-University of California-Davis	$47,500.00
Miscellaneous Grants under $10,000	$44,050.00
Animal Science:	
Miscellaneous Grants under $10,000	$7,500.00
Biological Systems Engineering:	
Miscellaneous Grants under $10,000	$2,613.00
Entomology:	
Miscellaneous Grants under $10,000	$9,750.00
Food Science and Technology:	
Vicki Schlegel – Nebraska Dry Bean Commission	$28,533.00
Miscellaneous Grants under $10,000	$7,038.00
Northeast Research and Extension Center:	
David Shelton, Ellen Paparozzi and Erin Blankenship – USDA-NRI	$52,535.00
Miscellaneous Grants under $10,000	$4,000.00
Panhandle Research and Extension Center:	
Miscellaneous Grants under $10,000	$65,350.00
Plant Pathology:	
James Van Etten – NIH-University of California-San Francisco	$95,992.00
Miscellaneous Grants under $10,000	$12,020.00
School of Natural Resources:	
Craig Allen – NGPC	$10,000.00
Anatoly Gitelson – NASA	$22,498.00
Sunil Narumalani – National Park Service	$20,000.00
Donald Rundquist – Nebraska Department of Agriculture	$28,523.00
Miscellaneous Grants under $10,000	$12,939.00
Veterinary and Biomedical Sciences:	
Fernando Osorio – National Pork Board	$109,313.00
David Steffen – Nebraska Department of Agriculture	$70,000.00
West Central Research and Extension Center:	
Miscellaneous Grants under $10,000	$24,402.00
Total	**$674,556.00**