ARD News December 2005

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December 2005
Comments from the Interim Dean

Dear Colleagues:

As you look through this and previous newsletters, I hope you are as impressed as I am with the continued success and growth of our research programs. Our grants and contracts in FY 2005 were up over $2 million, compared with FY 2004, and our research outputs (i.e., publications, books, M.S. and Ph.D. graduates, cultivars, patents, etc.) were up over 30%. Based on what the faculty has accomplished in the first half of FY 2006, I expect our productivity will be even higher than last year. Based on the quality of the work you are doing, there really is no place like Nebraska.

At this time of the year, it is always good to reflect on the past year, celebrate our successes, remember important events and individuals, and resolve to do new and even better things in the future. From all of us in the Agricultural Research Division office, I want to express our appreciation for your help, contributions, and dedication to serving science and society, and improving the quality of life for the citizens we serve. It has been a pleasure to serve you as the Interim Dean of the Agricultural Research Division and I look forward to continuing to help you and Dean Cunningham move our research accomplishments to even higher levels of success.

From all of us in the ARD office, we congratulate you on a great 2005 and look forward to continuing to help you succeed in 2006!

The ARD Office Staff:
William G. Whitmore Student Travel Endowment

The William G. Whitmore memorial fund was established at the University of Nebraska Foundation in 1980 as a memorial to William G. Whitmore, a member of the Board of Regents at the University of Nebraska from 1902-1916. The income from the fund supports a travel grant program for graduate students within IANR whose advisor or co-advisor has an ARD research appointment. In accordance with the donor instructions, this program will support attendance to professional society meetings in the fields of animal science, agricultural education and leadership, and veterinary and biomedical sciences. Priority for grants will be given to graduate students who are personally presenting the results of their research and/or scholarly investigations.

The Whitmore Research Travel Committee makes grants for expenses, including transportation (which is not to exceed coach class airfare), registration, lodging, meals, etc. Grants under this program are limited to a maximum of $500 per individual per fiscal year. The following IANR students received William G. Whitmore memorial funds for travel during the period Jan. 1 through June 31, 2006:

<table>
<thead>
<tr>
<th>Name</th>
<th>Department</th>
<th>Meeting</th>
<th>Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robin Ten Broeck</td>
<td>Animal Science Department</td>
<td>American Society of Animal Science</td>
<td>Des Moines, Iowa</td>
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<td>Michelle Baltes</td>
<td>Animal Science Department</td>
<td>American Society of Animal Science</td>
<td>Des Moines, Iowa</td>
</tr>
<tr>
<td>Jeremy L. Martin</td>
<td>Animal Science Department</td>
<td>American Society of Animal Science</td>
<td>Des Moines, Iowa</td>
</tr>
<tr>
<td>Matt Luebbe</td>
<td>Animal Science Department</td>
<td>American Society of Animal Science</td>
<td>Des Moines, Iowa</td>
</tr>
</tbody>
</table>

The next call for these travel funds will be sent to the unit administrators around the second week in April 2006 for travel from July 1 to Dec. 31, 2006.

David H. and Annie E. Larrick Fund, 2006

The David H. and Annie E. Larrick fund supports travel of graduate students who are conducting research in fields other than animal science, agricultural education and leadership, and veterinary and biomedical sciences. The Larrick endowment will assist the following students with $500 for travel grants to present research findings at national or regional meetings.

<table>
<thead>
<tr>
<th>Name</th>
<th>Department</th>
<th>Meeting</th>
<th>Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neal Bryan</td>
<td>Agronomy and Horticulture</td>
<td>Society for Range Management</td>
<td>Vancouver, BC - Canada</td>
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<tr>
<td>Sadaf Khan</td>
<td>Biochemistry Department</td>
<td>Keynote Symposium - Plant Responses</td>
<td>Copper Mountain, Colorado</td>
</tr>
<tr>
<td>David M. Guderian, Jr.</td>
<td>Nutrition and Health Sciences</td>
<td>American Society for Nutrition</td>
<td>San Francisco, California</td>
</tr>
<tr>
<td>Gabriela Comporeale</td>
<td>Nutrition and Health Sciences</td>
<td>American Society for Nutrition</td>
<td>San Francisco, California</td>
</tr>
<tr>
<td>Yap Ching Chew</td>
<td>Nutrition and Health Sciences</td>
<td>American Society for Nutrition</td>
<td>San Francisco, California</td>
</tr>
<tr>
<td>Young-Nam Kim</td>
<td>Nutrition and Health Sciences</td>
<td>American Society for Nutrition</td>
<td>San Francisco, California</td>
</tr>
</tbody>
</table>

UNDERGRADUATE HONORS RESEARCH PROGRAM

Funds for the FY 2005-2006 Undergraduate Honors Student Research Program have been allocated to units for support of undergraduate student research projects. This program is open to junior and senior University Honors Program students proposing to work with a faculty research mentor who has an ARD appointment. Three proposals were received and they were all funded. The following students have received funding:

Gwenn Skar (Biological Systems Engineering) $2,500
Mentor: Dr. Greg Bashford
“Dental Enamel Thickness Measurement Using Ultrasound”
Shashi B. Verma, Derrel L. Martin, Raymond J. Supalla, and Jeffrey S. Peake – NSF-EPSCoR – Integration of Field Measurements and Modeling for Improved Management of Water Resources – $1,500,000
Marjorie Lou, Lawrence Harshman, and Janos Zempleni – NSF EPSCoR – Regulation of lifespan and senescence in Eukaryotes – $2,000,000
Patrick H. Dussault, Kenneth Nickerson, Vicki Schlegel, Liangcheng Du, and J. Schafer – NSF EPSCoR – Chemical and Biochemical Profiling of Microorganismal Phenotype – $2,066,935
Curt Weller – USDA/ARS – Development of sorghum lipids as nutraceuticals – $28,800
Marjorie Lou, Lawrence Harshman, and Janos Zempleni – NSF EPSCoR – Regulation of lifespan and senescence in Eukaryotes – $2,000,000
Suat Irmak and Derrel L. Martin – USDA-NRCS – Consumptive Water Use and Crop Water Use Efficiency of Subsurface Drip-Irrigated Corn Coupled with Different Tillage Practices in South Central Nebraska – $70,000
Clinton Jones and Anisa Angeletti – NIH – Analysis of small RNAs encoded by the HSV-1 LAT gene – $1,825,000
Steve Goddard and Donald Wilhite – USDA – Drought risk, impact, and mitigation information system – $6,407,472
Steven Harris – NSF – Autophagy in fungal hyphae: functional genomic and mechanical strength studies – $417,852
David Steffen – USDA – Classical swine fever surveillance – $76,175
Greg Bashford – NIH – Ultrasound feature tracking for blood flow and tissue motion detection – $305,000
Dicky Dee Griffin – USDA – Stimulating the development of veterinarians to serve rural America – $124,810
Marjorie Lou – NIH – Redox regulating of growth factor signaling in the lens – $322,000
Dennis Brink – USDA – Physiological response of cattle to stable fly bites – $30,000
James Van Etten – NIH – Engineering DNA Nicking endonucleases – $150,000
Tom Clemente – USDA-ARS – Investigating the sorgoleone biosynthetic pathway in genetically-transformed sorghum – $103,370
Janos Zempleni – NIH – Mechanisms of biotin homeostasis – $1,022,000
John Yohe – U.S. AID – International Sorghum/millet research support program – $300,000
Rhae Drijber – USDA-ARS-SCA – Developing technologies to improve soil & nutrient management – $74,000
John Foster – USDA-ARS – Developing transgenic methods for use in studying screwworm genetics – $30,000
James Van Etten and the University of California – NIH – Center for innovation in membrane protein production – $144,293
David Marx – NIH-Department of Health and Human Services – Sex differences in 3D mechanics of healthy and degenerative TMJs – $34,384
Craig Allen, Andrew Tyre, and Qi Steven Hu – EPA – Interactions between climate change and multiple stressors: predicting nonlinear changes in amphibian and aquatic macroinvertebrate assemblages – $401,346
Alexander Martin – CSREES-NRI – IWM implementation – $41,595
Greg Somerville and Paul Fey – NIH-Department of Health and Human Services – Environmental regulation of staphylococcus epidermidis PIA Synthesis – $274,000
Donald Becker – NIH – Mechanistic studies of functional switching in the PutA flavorprotein – $1,220,349
Gary Hein, Stephen Wegulo, Qi Steven Hu, and Donald Rundquist – CSREES-N C IPM – Predicting wheat curl mite movement and wheat streak mosaic virus spread – $99,470
Marcela Raffaelli, Gustavo Carlo, Cody Hollist, and Brian Wilcox – NIH – Developmental trajectories of Brasilian street youth – $1,435,009
Andrew Benson – NIH – Functional consequences of genome evolution in E.coli O157:H7 – $1,948,575
Jaekwon Lee – NIH – Copper transport, homeostasis, and its defect – $1,434,240

Grants and Contracts Received for September and October 2005

Agricultural Economics:
Konstantinos Giannakas – USDA/Economic Research Service – $10,000.00

Agricultural Research and Development Center:
Daniel Duncan – Barta Brothers Fund – $10,000.00
Daniel Duncan – Barta Brothers Fund – $15,000.00

Agronomy and Horticulture:
Ken Cassman, Haishun Yang, Achim Dobermann, Dan Walters, and Richard Ferguson – Nebraska Corn Board – $25,504.00
Ismail Dweikat – Nebraska Grain Sorghum – $13,500.00
George Graef – United Soybean Board – $67,605.00
Roy Spalding – Central Platte Natural Resources District – $30,000.00
Miscellaneous Grants under $10,000 each – $62,623.00

Animal Science:
Dennis Brink – USDA-ARS – $30,000.00
Terry Klopfenstein and Don Adams – Nebraska Corn Board – $20,343.00
Miscellaneous Grants under $10,000 each – $4,750.00

Biochemistry:
Melanie Simpson – NIH – $36,327.00

Biological Systems Engineering:
David Billesbach – U.S. Department of Energy – $63,552.00
Dean Eisenhauer – Nebraska Department of Environmental Quality – $10,000.00
Thomas Franti – Charles and Katherine Baker Fund – $12,000.00
Suat Irmak and Derrel L. Martin – USDA-NRCS – $70,000.00
Rick Koelsch and the University of Wisconsin-Madison – USDA-CSREES – $9,630.00
Curt Weller – USDA-ARS – $28,800.00

Entomology:
Miscellaneous Grants under $10,000 each – $38,560.00

Food Processing Center:
Steve Taylor – USDA FSMIP – $43,000.00

Food Science and Technology:
Miscellaneous Grants under $10,000 each – $11,085.00

Northeast Research and Extension Center:
Terry L. Mader and Galen Erickson – Nebraska Corn Board – $24,645.00
Charles Shapiro, David Baltensperger, James Brandle, Charles Francis, Stevan Knezevic, Robert Wright, and Ron Johnson – USDA-CSREES – $762,949.00
Miscellaneous Grants under $10,000 each – $22,900.00

Panhandle Research and Extension Center:
Carlos Urrea – Nebraska Dry Bean Commission – $13,000.00
Miscellaneous Grants under $10,000 each – $74,300.00

Plant Pathology:
Loren Giesler – North Central Soybean Research Program – $20,000.00
Loren Giesler – USDA-ARS – $20,000.00
Miscellaneous Grants under $10,000 each – $14,000.00

School of Natural Resources:
Craig Allen – U.S. Geological Survey-BRD – $23,000.00
Craig Allen – U.S. Geological Survey-BRD – $25,000.00
Craig Allen – U.S. Geological Survey-BRD – $35,000.00
Anatoly Gitelson – NASA – $24,000.00
Kyle Hoagland – National Park Service – $10,000.00
Kyle Hoagland – USGS National Institute of Water Resources – $62,728.00
Kyle Hoagland – Nebraska Department of Environmental Quality – $150,000.00
Scott Hygnstrom – USDA APHIS – $92,000.00
Robert Kuzelka – U.S. Environmental Protection Agency – $15,000.00
Susan Lackey – Upper Elkhorn Natural Resources District – $31,000.00
Don Rundquist – CUNY-City University of New York – $81,250.00
Shashi Verma – U.S. Department of Energy – $300,000.00
Shashi Verma – U.S. Department of Energy – $1,268,660.00
Don Wilhite – USDA-CSREES – $277,778.00

Statistics:
Erin Blankenship and Walter Stroup – Boehringer Ingelheim Pharmaceuticals – $30,228.00

US Meat Animal Research Center:
Z B Mayo – USDA-ARS-NPA – $946,600.00

Veterinary and Biomedical Sciences:
Gerald E. Duhamel – Morris Animal Foundation – $15,422.00
Clinton Jones – Fort Dodge Animal Health – $58,612.00
Fernando Osorio and Asit Pattnaik – NRI – $129,600.00
David Steffen – Nebraska Department of Agriculture – $53,000.00
Miscellaneous Grants under $10,000 each – $2,400.00

West Central Research and Extension Center:
Miscellaneous Grants under $10,000 each – $17,320.00

TOTAL $5,212,671.00
Graduate student data represents students enrolled on the sixth-day census (Fall 2005) and non-enrolled students actively pursuing graduate degrees. The graduate program in the Agricultural Research Division (College of Agricultural Sciences and Natural Resources and the College of Education and Human Sciences) increased 2% from Semester 2004 to the Fall Semester 2005. 19.8% of the graduate students in CASNR majors are supported by assistantships (state-appropriated GRA and GTA; fellowships; and international agency or foreign country support). 19.5% of the students in the College of Education and Human Sciences are supported. 34% of our students were not enrolled in IANR graduate programs on the sixth day of the semester.

### Institute of Agriculture and Natural Resources

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<td>6</td>
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<td>Total</td>
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<td>58.5</td>
<td>9</td>
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<td>632</td>
<td>656</td>
<td>656</td>
<td>611</td>
<td>4.5%</td>
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### College of Education and Human Sciences

| Family and Consumer Sciences                     | 8    | 1     | 6    | 52   | NA   | NA    | NA   | NA         | 67 70 42 43 36 -4.3% |
| Nutrition and Health Sciences                    | 3    | 4     | 7    | 19   | NA   | NA    | NA   | NA         | 33 44 28 39 36 -25.0% |
| Textiles, Clothing and Design (M.A./M.S.)       | 5.5  | 1     | 2.5  | 17   | NA   | NA    | NA   | NA         | 26 32 25 26 23 -18.8% |
| Interdepartmental Nutrition                      | 0    | 2     | 0    | 1    | 3    | 0     | 5    | 9          | 20 6 16 15 12 233.3% |
| HUMS (FACS, NUTR, TXCD) (Ph.D.)                 | NA   | NA    | NA   | NA   | 3.5  | 3     | 5    | 16         | 27.5 34 30 34 52 -19.1% |
| Total                                          | 16.5 | 8     | 15.5 | 89   | 6.5  | 3     | 10   | 25         | 173.5 186 141 157 159 -6.7% |
| Grand Total                                     | 129  | 44.5  | 173.5| 186 | 141  | 157   | 159  | -6.7%      |
| Grand Total CASNR & CEHS                        | 59   | 28.75 | 113.75| 346.50| 65  | 12    | 121.5| 87.5       | 834.0 818 797 813 770 2.0% 10/31/05 |