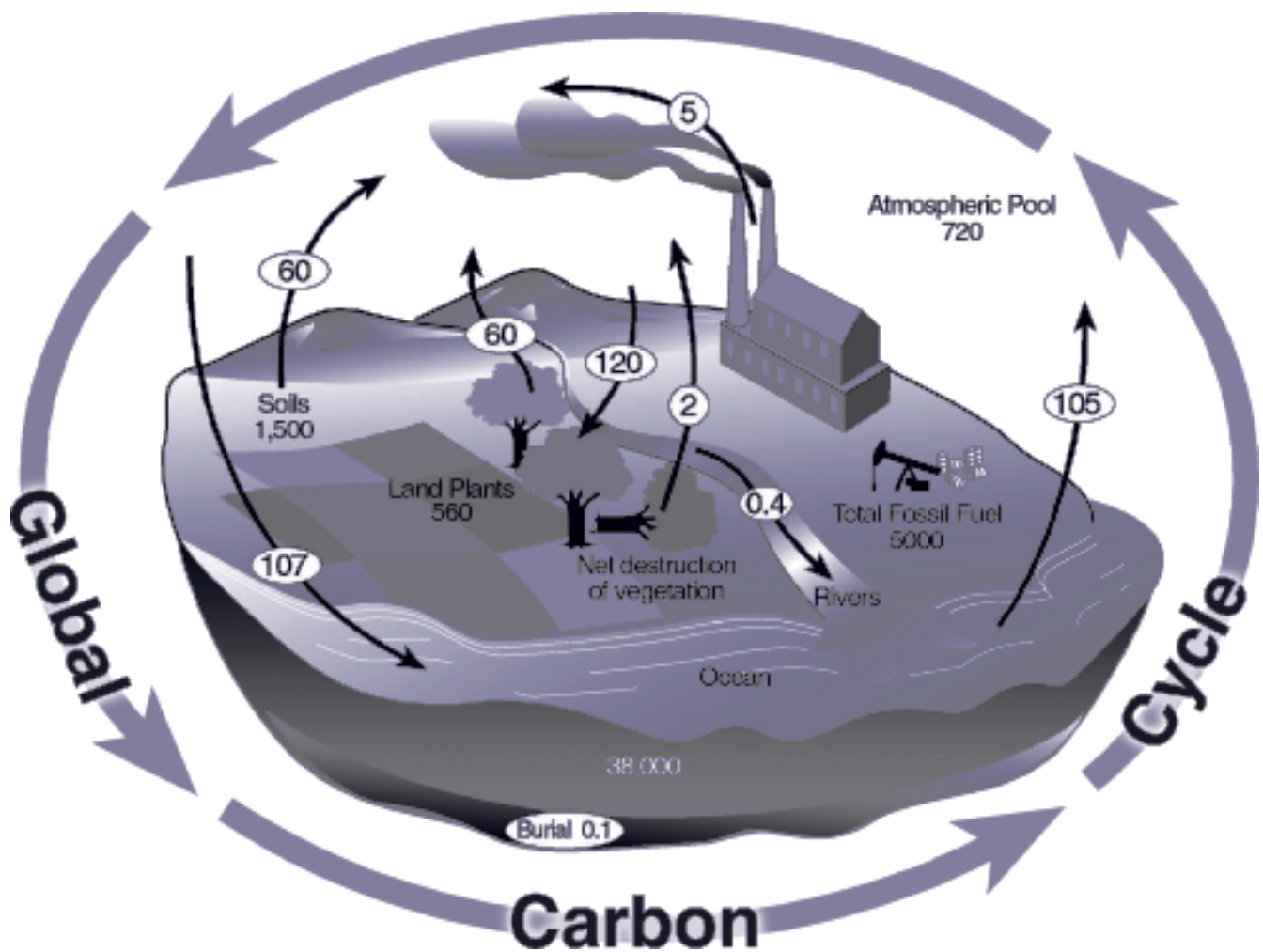


RESEARCH 2002

A Report of
Research and
Sponsored
Programs for
Fiscal Year
2002



KANSAS STATE UNIVERSITY

DEPICTED ON THE COVER:

THE CARBON CYCLE acts as a regulator on the Earth's environment, preventing carbon dioxide (CO₂) levels in the atmosphere from becoming too high or too low. Life on Earth depends on the carbon cycle remaining in proper balance. If CO₂ levels were to become too high, global warming would occur. As long as an acceptable range of CO₂ levels is maintained, environmental swings remain moderate enough to sustain life as we know it.

Currently, emissions from fossil fuel burning are increasing atmospheric CO₂ levels, a likely factor in global warming. Rebalancing the carbon levels is the task ahead, and agricultural producers as a group can help by using management practices that store or retain carbon in the soil—for example, no-till cultivation, grass plantings and tree plantings are beneficial practices. This concept of storing carbon in the soil is termed “carbon sequestration.”

In fiscal year 2002, agronomists with the Kansas Agricultural Experiment Station received the largest grant in K-State history to address this problem. K-State will direct a coalition of universities in studying the physical processes and economics of carbon sequestration. The team includes agronomists, agricultural economists, ecologists, extension engineers, range scientists, and soil scientists. The national Coalition for Agricultural Soils Mitigation of Greenhouse Gases (CASMGS) will provide research and outreach programs essential to the success of carbon sequestration efforts.

Through CASMGS, scientists will be able to provide information to agricultural producers and to policymakers about the best opportunities for sequestering carbon in soil, along with economic merits and social benefits associated with the opportunities.



**Vice Provost for Research
Dean of Graduate School**

108 Anderson Hall
Manhattan, KS 66506 -0113
785-532-5110
Fax: 785-532-6507

January 2003

K-State Colleagues and Friends:

The fiscal year covered in this report encompasses September 11, 2001. So, although we are gratified by the research accomplishments documented in the pages that follow, our enthusiasm this year must be tempered with world events in mind.

Kansas State University faculty members, with characteristic resiliency and dedication, went about their business of teaching, research, and service this year. Clearly, we can be very proud of the sustained efforts that produced a \$7 million jump in extramural funding from the previous fiscal year—competitive awards totaled \$90.3 million in 2002.

Among the year's successes: Kansas State University became the lead research university on a national carbon sequestration project that will attempt to understand and resolve key issues involved in global warming. The annual report cover depicts the earth's carbon cycle, the overall process under investigation by an interdisciplinary team.

K-State faculty have continued to focus significant intellectual and academic effort on issues of agricultural biosecurity, an effort that has intensified significantly post 9/11. Many of the new projects relate to the unsettling possibility of future bioterrorism aimed at modern agriculture, and the projects are grounded in decades of fundamental research and amassed faculty expertise in the plant and animal sciences.

In addition to addressing such important issues as global warming and agricultural bioterrorism, K-State faculty members also have continued to create intellectual property from their research and scholarly activities. This year, 11 new patents were issued to the KSU Research Foundation on behalf of faculty inventors. In the challenging economic times we now face, every effort is being made to protect and commercialize the intellectual property in order to realize positive returns on the years of human creativity and economic investment that have been expended to reach this stage. We are including an overview of our commercialization activities in this year's report for the first time.

Amidst great uncertainty, one thing we are absolutely sure of—K-State faculty, staff, and students are doing all they can to fortify our programs, stretch and share our limited resources, and stay focused on the central mission of this university. We applaud your efforts. Thank you.

Sincerely,

R.W. Trewyn
Vice Provost and Dean
President, KSU Research Foundation

**KANSAS STATE
UNIVERSITY**
**RESEARCH/SCHOLARLY ACTIVITY
FUNDING BASE**

Fiscal Year 2002

The research funding base at Kansas State University consists of funds appropriated from federal and state sources, gifts from alumni and friends, and awards of extramural funds from federal and state agencies, foundations, and various private and industrial organizations, mainly through the competitive grants process.

I.	<u>COMPETITIVE AWARDS</u>	<u>\$90,294,928</u>
II.	<u>APPROPRIATED</u>	
	Main Campus State Appropriation	\$3,165,668
	Experiment Station Programs and Extension Services	
	Federal Appropriation	\$7,970,461
	State Appropriation	\$48,613,084
	Veterinary Medical Center State Appropriation	\$571,577
	<u>SUBTOTAL</u>	<u>\$60,320,790</u>
III.	<u>DONATED*</u>	<u>\$26,681,624</u>
	RESEARCH/SCHOLARLY ACTIVITY BASE GRAND TOTAL	<u>\$177,297,342</u>

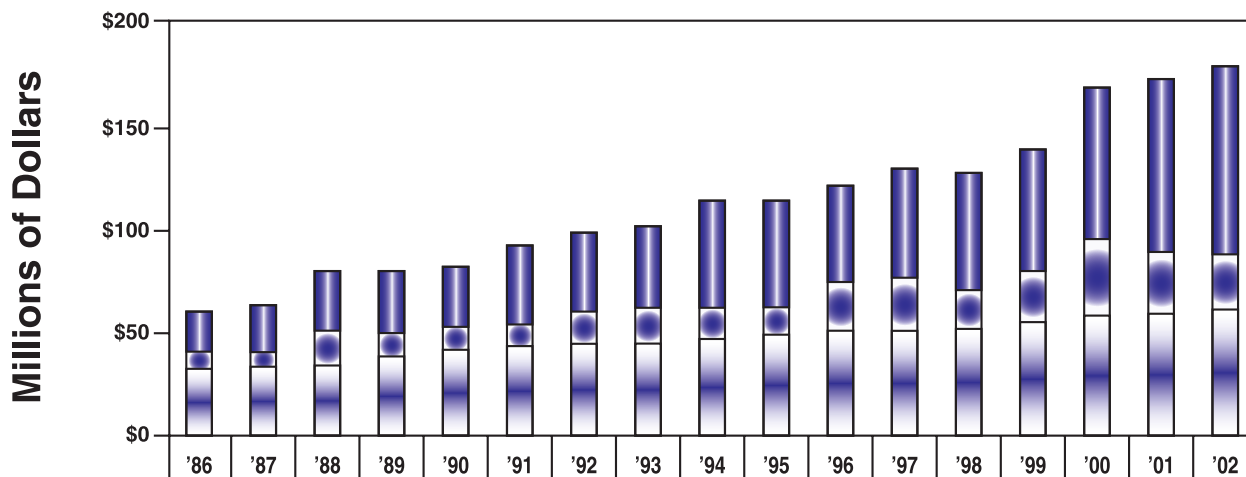
*KSU Foundation funds transferred to KSU in support of research/scholarly activity (excludes transfers to Athletics).

SECTION 1: AWARDS

**KANSAS STATE
UNIVERSITY**

RESEARCH/SCHOLARLY ACTIVITY FUNDING BASE

Fiscal Years 1986–2002



	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02
Competitive	\$19.6	\$21.9	\$28.8	\$29.1	\$28.6	\$37.2	\$38.0	\$38.8	\$50.6	\$51.5	\$46.4	\$52.3	\$55.8	\$58.5	\$71.7	\$83.7	\$90.3
Donated*	\$8.1	\$6.9	\$16.1	\$12.0	\$10.7	\$10.6	\$14.7	\$17.0	\$16.0	\$13.2	\$24.2	\$26.1	\$18.3	\$23.3	\$37.7	\$29.5	\$26.7
Appropriated	\$32.3	\$33.6	\$34.2	\$37.7	\$41.5	\$43.3	\$44.6	\$44.7	\$46.1	\$48.1	\$49.8	\$49.8	\$51.8	\$55.4	\$57.1	\$58.3	\$60.3

Fiscal Year

* Donated = KSU Foundation funds transferred to KSU in support of research/scholarly activity

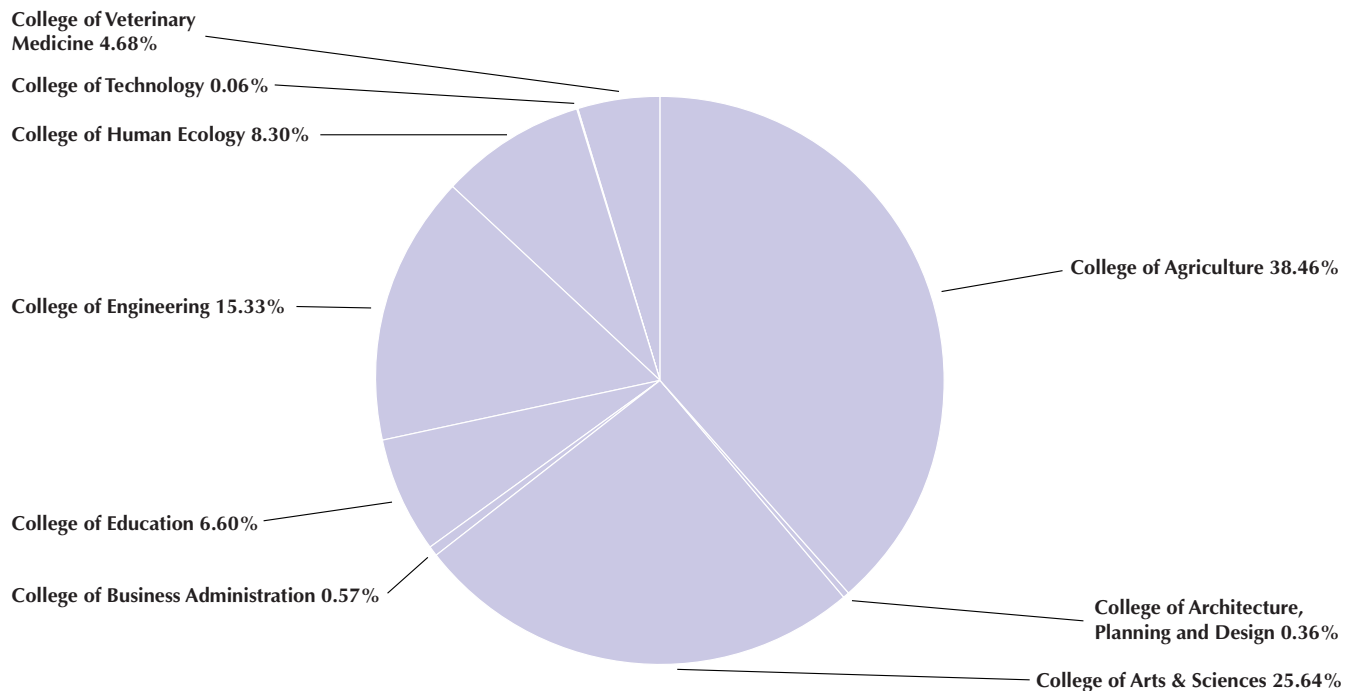
DISTRIBUTION OF NEW AWARDS AMONG COLLEGES AND OFFICES OF THE UNIVERSITY

Fiscal Year 2002

College/Office	Number of Awards	Dollar Value
College of Agriculture	321	\$33,756,062
College of Architecture, Planning and Design	6	312,806
College of Arts and Sciences	172	22,506,394
College of Business Administration	7	499,924
College of Education	43	5,797,441
College of Engineering	153	13,458,335
College of Human Ecology	53	7,284,803
College of Technology	2	55,970
College of Veterinary Medicine	85	4,107,232
Office of the President	4	39,560
Office of the Provost	13	691,750
Vice President for Administration and Finance	1	9,000
Vice President for Institutional Advancement	13	1,008,407
Vice Provost for Academic Services and Instruction	2	26,803
Vice Provost for Research and Dean of Graduate School	7	740,441
UNIVERSITY TOTALS	882	\$90,294,928

AWARDS BY COLLEGE

Fiscal Year 2002



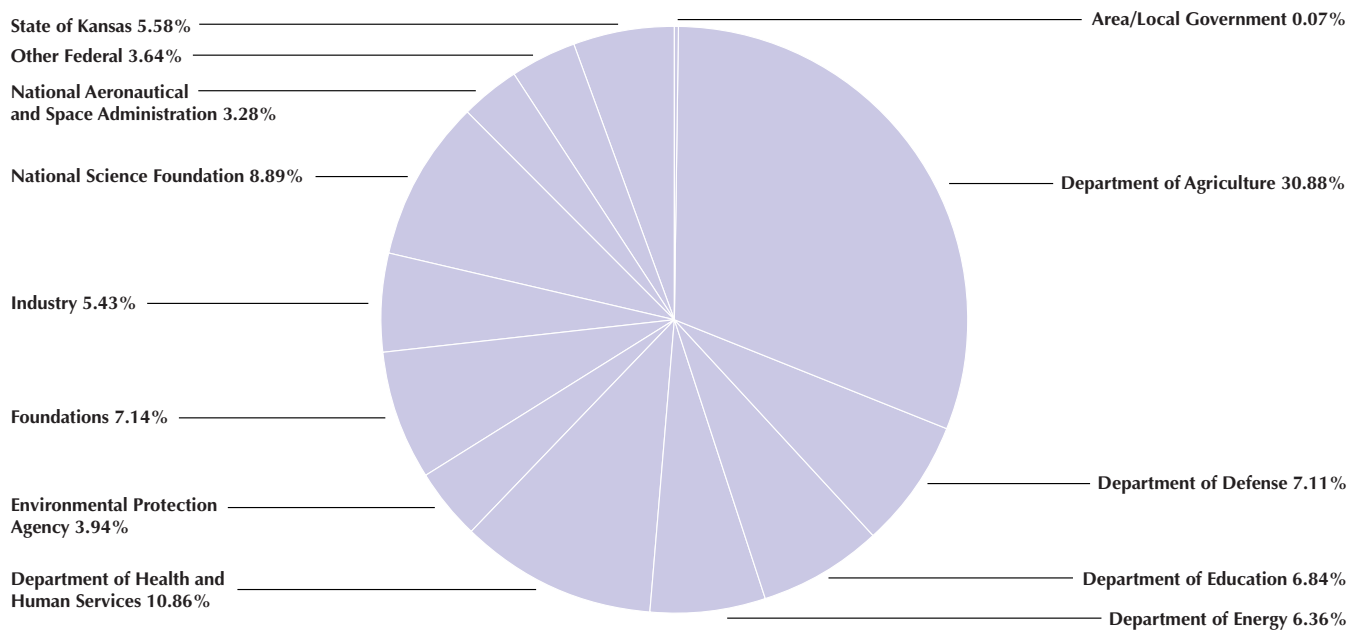
KANSAS STATE UNIVERSITY SOURCES OF AWARDS

Fiscal Year 2002

Source	Number of Awards	Dollar Value
Area/Local Government	4	\$59,187
Department of Agriculture	114	27,886,281
Department of Defense	34	6,421,446
Department of Education	39	6,174,053
Department of Energy	33	5,741,205
Department of Health and Human Services	59	9,801,948
Environmental Protection Agency	33	3,555,155
Foundations	174	6,442,989
Industry	172	4,905,140
National Science Foundation	61	8,024,682
National Aeronautics and Space Administration	22	2,957,549
Other Federal	53	3,289,042
State of Kansas	84	5,036,251
TOTAL	882	\$90,294,928

SOURCES OF AWARDS

Fiscal Year 2002



EXTRAMURAL AWARDS

Fiscal Year 2002 (July 1, 2001 - June 30, 2002)

COLLEGE OF AGRICULTURE

AGRICULTURAL ECONOMICS

Barton, David G., Multisponsor, \$74,000, "Arthur Capper Cooperative Center."

Barton, David G., US Department of Agriculture, \$18,452, "Risk Information and Education for Producers Investing in Value Added Businesses and New Generation Cooperatives."

Bernardo, Daniel J., Boland, Michael A., Dhuyvetter, Kevin C., and Kastens, Terry, Kansas Corn Commission, \$18,000, "Intensive Farm Management Education for Kansas Crop Producers."

Biere, Arlo, US Department of Education, \$10,635, "Establishment of the North American Agribusiness Consortium."

Boland, Michael A., US Department of Agriculture, \$1,096,100, "USDA Agricultural Marketing Resource Center."

Boland, Michael A., (see **Bernardo, Daniel J.**, Agricultural Economics).

Crespi, John M., US Department of Agriculture, \$8,728, "Are Equivalent Advertising Assessments Optimal in the Face of Product Differentiation?"

Fox, John A., (see **Penner, Karen P.**, Extension Animal Sciences and Industry).

Kastens, Terry, (see **Bernardo, Daniel J.**, Agricultural Economics).

Langemeier, Michael R., (see **Nelson, Richard G.**, Kansas Industrial Extension Services).

Langemeier, Michael R., (see **Pierzynski, Gary M.**, Agronomy).

Marsh, Thomas L., (see **Schroeder, Ted C.**, Agricultural Economics).

Norman, David W., Food and Agriculture Organization of United Nations, \$23,460, "Capacity Building for Farming Systems Development in Support of the Special Program for Food Security and Increased Food Production."

Norman, David W., Food and Agriculture Organization of United Nations, \$7,950, "FAO SPFS Evaluation Team."

Peterson, Jeffrey M., (see **Lamm, Freddie R.**, Northwest Research Extension Center).

Schroeder, Ted C., US Department of Agriculture, \$29,629, "Experimental Auctions and External Validity: Consumer Demand for Quality Differentiated Beef."

Schroeder, Ted C., and **Marsh, Thomas L.**, US Department of Agriculture, \$138,000, "USDA Food and Agricultural Sciences National Needs Graduate Program-Marketing and Management."

Williams, Jeffrey L., (see **Nelson, Richard G.**, Kansas Industrial Extension Services).

AGRICULTURAL EXPERIMENT STATION

Johnson, Marc A., (see **Buchholz, Daryl D.**, Agriculture and Natural Resources).

Kadir, Sorkel M., (see **Ramaswamy, Sonny B.**, Entomology).

Rice, Charles W., US Department of Agriculture, \$14,259,000, "Consortium for Agricultural Soils Mitigation of Greenhouse Gases."

Rife, Charles L., US Department of Agriculture, \$112,320, "Development and Management of Canola in the Great Plains Region."

Schenck-Hamlin, Donna C., (see **Hartman, Amy L.**, Communications).

AGRICULTURAL RESEARCH CENTER—HAYS

Brethour, John R., Multisponsor, \$9,900, "Beef Research."

Kofoed, Kenneth D., Harvey, Tom L. (Entomology), **Reese, John C.** (Entomology), **Seifers, Dallas L.**, and **Tuinstra, Mitchell R.** (Agronomy), Kansas Grain Sorghum Commission, \$72,000, "Breeding Sorghum with Improved Grain Yield, Greenbug and Virus Resistance, and Pre-Flowering Drought Tolerance."

Kofoed, Kenneth D., (see **Tuinstra, Mitchell R.**, Agronomy).

Kofoed, Kenneth D., (see **Vanderlip, Richard**, Agronomy).

Martin, Terry J., Kansas Crop Improvement Association, \$6,000, "Use of Wheat Canopy Temperature Depression to Predict Yield of Early Generation Breeding Lines in Western Kansas."

Martin, Terry J., Harvey, Tom L. (Entomology), and **Seifers, Dallas L.**, Kansas Wheat Commission, \$86,600, "Kansas Dual Purpose Pest Resistant White Wheats."

Martin, Terry J., (see **Fritz, Allan K.**, Agronomy).

Martin, Terry J., (see **Stahlman, Phillip W.**, Agricultural Research Center-Hays).

Seifers, Dallas L., (see **Garrett, Karen A.**, Plant Pathology).

Seifers, Dallas L., (see **Kofoed, Kenneth D.**, Agricultural Research Center-Hays).

Seifers, Dallas L., (see **Martin, Terry J.**, Agricultural Research Center-Hays).

Stahlman, Phillip W., FMC Corporation, \$10,000, "FMC Corporation Fellowship."

Stahlman, Phillip W., Monsanto Company, \$5,000, "Risks of Weed Spectrum Shifts in Glyphosate-Resistant Cropping Systems."

Stahlman, Phillip W., Multisponsor, \$155,250, "Weed Research."

Stahlman, Phillip W., National Sunflower Association, \$3,000, "Weed Control in Sunflower."

Stahlman, Phillip W., US Department of Agriculture, \$59,000, "National Jointed Goatgrass Extension Coordinator."

Stahlman, Phillip W., Martin, Terry J., and Martin, Victor L. (Agronomy), Kansas Wheat Commission, \$11,000, "Risk and Management of Clearfield Winter Wheat."

Stahlman, Phillip W., Martin, Terry J., and Martin, Victor L. (Agronomy), US Department of Agriculture, \$18,000, "Clearfield Winter Wheat Risk Assessment."

Stahlman, Phillip W., and **O'Brien, Daniel M.** (Northwest Area Office), US Department of Agriculture, \$20,000, "Integrated Management Systems for Jointed Goatgrass in the Central Great Plains."

Thompson, Carlyle A., Multisponsor, \$8,500, "Crop Culture."

Thompson, Carlyle A., Stockhausen, Inc., \$4,167, "Effect of Stockosorb Agro on Winter Wheat Grown in Central Kansas."

Thompson, Carlyle A., Stockhausen, Inc., \$8,334, "Effect of Stockosorb Agro on Grain Sorghum Grown in Central Kansas."

Thompson, Carlyle A., (see **Alam, Mahbub U.**, Biological and Agricultural Engineering).

Thompson, Carlyle A., (see **Gordon, Walter B.**, Agronomy).

AGRONOMY

Brown-Guedira, Gina L., (see **Fritz, Allan K.**, Agronomy).

Claassen, Mark J., (see **Roozeboom, Kraig L.**, Agronomy).

Claassen, Mark J., (see **Tuinstra, Mitchell R.**, Agronomy).

Devlin, Daniel L., (see **Nelson, Richard G.**, Kansas Industrial Extension Services).

Devlin, Daniel L., (see **Powell, G. Morgan**, Biological and Agricultural Engineering).

Dille, Johanna A., and **Peterson, Dallas E.**, US Department of Agriculture, \$17,000, "Adaptation of WeedSOFT Weed Management Decision Aid Software to Kansas."

Dille, Johanna A., and **Peterson, Dallas E.**, US Department of Agriculture, \$36,000, "IWM Implementation: A Regional Approach."

Fick, Walter H., Multisponsor, \$16,050, "Range and Pasture Brush and Weed Control."

Fjell, Dale L., Kansas Corn Commission, \$8,000, "Corn Production in Kansas: Extension and Applied Research."

Fjell, Dale L., Kansas Soybean Commission, \$4,000, "Soybean Production in Kansas: Extension and Applied Research."

Fjell, Dale L., (see **Gordon, Walter B.**, Agronomy).

Fjell, Dale L., (see **Nelson, Richard G.**, Kansas Industrial Extension Services).

Fritz, Allan K., and **Brown-Guedira, Gina L.**, Kansas Wheat Commission, \$6,000, "Developing Multiple Pest Resistant Wheat Germplasm."

Fritz, Allan K., and **Gill, Bikram S.** (Plant Pathology), US Department of Agriculture, \$30,247, "Bringing Genomics to the Wheat Fields."

Fritz, Allan K., and **Martin, Terry J.** (Agricultural Research Center-Hays), Kansas Wheat Commission, \$97,000, "Improvement of Hard Red Winter Wheat for Kansas."

Fritz, Allan K., and **Paulsen, Gary M.**, Kansas Wheat Commission, \$45,000, "Development of Hard White Winter Wheat for Kansas."

Fritz, Allan K., and **Schaffer, Vernon A.**, Kansas Wheat Commission, \$100,000, "Small Plot Combine for the Manhattan Wheat Breeding Program."

Fritz, Allan K., (see **Paulsen, Gary M.**, Agronomy).

Fritz, Allan K., (see **Trick, Harold N.**, Plant Pathology).

Gordon, Walter B., **Aiken, Robert M.** (Northwest Research Extension Center), **Duncan, Stewart R.** (South Central Area Office), **Fjell, Dale L.**, **Heer, William F.**, **Janssen, Keith A.**, **Kilgore, Gary L.** (Southeast Area Office), **Long, James H.** (Southeast Agricultural Research Center), **Maddux, Larry D.**, **Staggenborg, Scott A.** (Northeast Area Office), **Thompson, Carlyle A.** (Agricultural Research Center-Hays), and **Witt, Merle D.** (Southwest Research Extension Center), Kansas Soybean Commission, \$70,000, "Planting Dates and Maturity Group Effects on Soybean Production in Kansas."

Gordon, Walter B., **Janssen, Keith A.**, **Kilgore, Gary L.** (Southeast Area Office), and **Lamond, Ray E.**, Kansas Corn Commission, \$30,000, "Use of Strip-Tillage for Corn Production in Kansas."

Gordon, Walter B., (see **Roozeboom, Kraig L.**, Agronomy).

Gordon, Walter B., (see **Tuinstra, Mitchell R.**, Agronomy).

Ham, Jay M., US Environmental Protection Agency, \$98,885, "Development and Standardization of Methods for Measuring Seepage Rates from Anaerobic Lagoons at Animal Feeding Operations."

Ham, Jay M., (see **Lamm, Freddie R.**, Northwest Research Extension Center).

Ham, Jay M., (see **Owensby, Clenton E.**, Agronomy).

Heer, William F., (see **Gordon, Walter B.**, Agronomy).

Janssen, Keith A., Four Star Services, Inc., \$5,500, "Evaluation of Agri-SC for Reducing Soil, Nutrient, and Herbicide Losses in Cropland Runoff."

Janssen, Keith A., Multisponsor, \$300, "Double-Crop Soybean Performance Tests - Agronomy."

Janssen, Keith A., (see **Gordon, Walter B.**, Agronomy).

Janssen, Keith A., (see **Regehr, David L.**, Agronomy).

Janssen, Keith A., (see **Roozeboom, Kraig L.**, Agronomy).

Janssen, Keith A., (see **Tuinstra, Mitchell R.**, Agronomy).

Kluitenberg, Gerard J., National Aeronautics and Space Administration, \$92,609, "Flow and Distribution of Fluid Phases through Porous Plant Growth Media in Microgravity."

Kulakow, Peter A., (see **Erickson, Larry E.**, Hazardous Substance Research Center).

Lamond, Ray E., US Environmental Protection Agency, \$2,460, "Nature Conservancy Soil Testing."

Lamond, Ray E., **Maddux, Larry D.**, **Marsh, Brian H.**, and **Pierzynski, Gary M.**, Multisponsor, \$47,240, "Soil Fertility and Soil Management Investigations."

Lamond, Ray E., (see **Gordon, Walter B.**, Agronomy).

Lamond, Ray E., (see **Leikam, Dale F.**, Agronomy).

Liang, George H., Kansas Crop Improvement Association, \$5,000, "Addition of Genes Encoding Thaumatin-Like Protein and late Embryogenesis Abundant Protein."

Liang, George H., Kansas Wheat Commission, \$44,000, "Gluten Proteins that Improve Bread Quality."

Liang, George H., **Muthukrishnan, Subbarat** (Biochemistry), and **Tuinstra, Mitchell R.**, Kansas Grain Sorghum Commission, \$48,000, "Transformation of Sorghum for Enhanced Stalk Rot Resistance and Drought Tolerance."

Maddux, Larry D., (see **Gordon, Walter B.**, Agronomy).

Maddux, Larry D., (see **Lamond, Ray E.**, Agronomy).

Marsh, Brian H., (see **Lamond, Ray E.**, Agronomy).

Martin, Victor L., **Clark, Gary A.** (Biological and Agricultural Engineering), **Fjell, Dale L.**, and **Rogers, Danny H.** (Biological and Agricultural Engineering), Kansas Corn Commission, \$11,000, "Corn Production Using Limited Subsurface Drip Irrigation on Sandy Soils."

Martin, Victor L., (see **Stahlman, Phillip W.**, Agricultural Research Center-Hays).

Martin, Victor L., (see **Tuinstra, Mitchell R.**, Agronomy).

Mengel, David B., US Department of Agriculture, \$20,000, "Wind Erosion Assessment and Control."

Mengel, David B., US Department of Agriculture, \$87,100, "Wind Erosion Model for Military Lands."

Ohlenbusch, Paul D., Society for Range Management, \$4,500, "Society for Range Management 2002 Web Site Management and Development of CD Abstracts."

Owensby, Clenton E., **Ham, Jay M.**, and **Knapp, Alan K.** (Biology), US Department of Energy, \$105,000, "Landscape-Level Trace Gas Fluxes on Grazed and Ungrazed Tallgrass."

Owensby, Clenton E., **Ham, Jay M.**, and **Knapp, Alan K.** (Biology), US Department of Energy, \$51,202, "Net Ecosystem Carbon and Water Vapor Exchange of Tallgrass Prairie."

Paulsen, Gary M., and **Fritz, Allan K.**, Kansas Crop Improvement Association, \$8,000, "Improving Resistance to Preharvest Sprouting in Kansas White Wheat."

Paulsen, Gary M., (see **Fritz, Allan K.**, Agronomy).

Peterson, Dallas E., (see **Dille, Johanna A.**, Agronomy).

Peterson, Dallas E., (see **Higgins, Randall A.**, Entomology).

Pierzynski, Gary M., US Department of the Interior, \$70,000, "Greenhouse Studies to Demonstrate Zinc Phytotoxicity of Native Plant Species."

Pierzynski, Gary M., **Devlin, Daniel L.**, **Langemeier, Michael R.** (Agricultural Economics), **Mankin, Kyle R.** (Biological and Agricultural Engineering), **Regehr, David L.**, and **Sweeney, Daniel W.** (Southeast Agricultural Research Center), US Department of Agriculture, \$560,000, "Integrated Agricultural Management Systems for Improving Water Quality in Kansas."

Pierzynski, Gary M., (see **Lamond, Ray E.**, Agronomy).

Ransom, Michel D., and **Rice, Charles W.**, US Department of Agriculture, \$165,000, "Providing Soil Sample Analyses for Soil Survey Activities."

Ransom, Michel D., (see **Thien, Stephen J.**, Agronomy).

Regehr, David L., and **Janssen, Keith A.**, Multisponsor, \$296,550, "Field Herbicidal Evaluations."

Regehr, David L., (see **Pierzynski, Gary M.**, Agronomy).

Rice, Charles W., Kansas Technology Enterprise Corporation, \$138,195, "Enhancement of Research on Fate and Impact of Environmental Pollutants."

Rice, Charles W., US Environmental Protection Agency, \$373,487, "Enhancement of Research on Fate and Impact of Environmental Pollutants."

Rice, Charles W., (see **Ransom, Michel D.**, Agronomy).

Rice, Charles W., (see **Thien, Stephen J.**, Agronomy).

Rife, Charles L., Kansas Crop Improvement Association, \$5,000, "Aluminum Tolerance in Canola: Developing Canola Varieties Adapted to Low pH Soils."

Roozeboom, Kraig L., Multisponsor, \$371,765, "Crop Performance."

Roozeboom, Kraig L., **Claassen, Mark J.**, **Gordon, Walter B.**, **Janssen, Keith A.**, and **Tuinstra, Mitchell R.**, National Grain Sorghum Producers Association, \$9,600, "Evaluation of Tan-Plant Sorghum Hybrids."

Roozeboom, Kraig L., (see **Wilde, Gerald E.**, Entomology).

Schaffer, Vernon A., Multisponsor, \$7,759, "Foundation Seed Maintenance."

Schaffer, Vernon A., (see **Fritz, Allan K.**, Agronomy).

Schapaugh, William T., Kansas Crop Improvement Association, \$10,714, "Development of Improved Soybean Varieties for Kansas."

Schapaugh, William T., **Long, James H.** (Southeast Agricultural Research Center), **Todd, Timothy C.** (Plant Pathology), and **Trick, Harold N.** (Plant Pathology), Kansas Soybean Commission, \$203,500, "Enhancing Soybean Germplasm Development."

Schapaugh, William T., (see **Higgins, Randall A.**, Entomology).

Schapaugh, William T., (see **Sun, X. Susan**, Grain Science and Industry).

Schapaugh, William T., (see **Trick, Harold N.**, Plant Pathology).

Schmidt, John P., (see **Schlegel, Alan J.**, Southwest Research Extension Center).

Skinner, Daniel Z., (see **St. Amand, Paul C.**, Agronomy).

St. Amand, Paul C., and **Skinner, Daniel Z.**, Kansas Crop Improvement Association, \$3,840, "Development of Acid-Tolerant Alfalfa Germplasm for Kansas."

Stone, Loyd R., (see **Lamm, Freddie R.**, Northwest Research Extension Center).

Stone, Loyd R., (see **Schlegel, Alan J.**, Southwest Research Extension Center).

Thien, Stephen J., **Ransom, Michel D.**, and **Rice, Charles W.**, US Golf Association, \$10,000, "Impact of Golf Courses on Soil Quality."

Thien, Stephen J., (see **Starrett, Steven K.**, Civil Engineering).

Tuinstra, Mitchell R., National Grain Sorghum Producers Association, \$35,000, "Elucidation of and Development of Cold Tolerance in Sorghum."

Tuinstra, Mitchell R., and **Hancock, Joe D.** (Animal Sciences and Industry), US Agency for International Development, \$61,894, "Enhancing the Utilization of Grain Sorghum and Pearl Millet through the Improvement of Grain Quality via Genetic and Nutrition Research."

Tuinstra, Mitchell R., **Claassen, Mark J.**, **Claflin, Larry E.** (Plant Pathology), **Gordon, Walter B.**, **Janssen, Keith A.**, **Kofoed, Kenneth D.** (Agricultural Research Center-Hays), and **Martin, Victor L.**, Kansas Grain Sorghum Commission, \$67,600, "Breeding Grain Sorghum for Improved Dryland Production."

Tuinstra, Mitchell R., (see **Kofoed, Kenneth D.**, Agricultural Research Center-Hays).

Tuinstra, Mitchell R., (see **Liang, George H.**, Agronomy).

Tuinstra, Mitchell R., (see **Roozeboom, Kraig L.**, Agronomy).

Tuinstra, Mitchell R., (see **Vanderlip, Richard**, Agronomy).

Vanderlip, Richard, **Kofoed, Kenneth D.** (Agricultural Research Center-Hays), and **Tuinstra, Mitchell R.**, US Department of Agriculture, \$97,278, "Sorghum Research."

Xia, Kang, (see **Starrett, Steven K.**, Civil Engineering).

ANIMAL SCIENCES AND INDUSTRY

Crozier-Dodson, Beth Ann, (see **Fung, Daniel Y. C.**, Animal Sciences and Industry).

Dikeman, Michael E., National Cattlemen's Beef Association, \$68,250, "Carcass Merit Traits: Development of EPD's and Genetic Marker Validation."

Dikeman, Michael E., National Cattlemen's Beef Association, \$138,343, "Determination of Factors that Cause Livery Flavor Development in Various Beef Muscles from the Chuck and Loin."

Dikeman, Michael E., **Hunt, Melvin C.**, and **Spire, Mark F.** (Food Animal Health and Management Center), National Pork Board, \$29,518, "Infrared Thermography of Market Hogs as a Predictor of Pork Quality."

Drouillard, James S., Pioneer Hi-Bred International, Inc., \$71,132, "Effects of Vegetable and Animal Fat Sources on Finishing Cattle Performance, Carcass Characteristics, and Meat Sensory Attributes."

Drouillard, James S., **Kastner, Curtis L.**, and **Phebus, Randall K.**, Kansas Corn Commission, \$19,876, "Distiller's Byproducts for Cattle: Food Safety, Meat Quality and Cattle Performance."

Drouillard, James S., and **Johnson, Bradley, J.**, North Dakota Oilseed Council, \$105,080, "Flaxseed as Component of Finishing Cattle Diets."

Drouillard, James S., (see **Spire, Mark F.**, Food Animal Health and Management Center).

Fung, Daniel Y. C., Hill's Pet Nutrition, Inc., \$5,000, "Microbial Evaluation of Hill's Pet Food Products."

Fung, Daniel Y. C., and **Crozier-Dodson, Beth Ann**, National Pork Board, \$40,000, "Recovery and Identification of Airborne Microorganisms in Swine Facilities Using Selective Agar and Thin Agar Layer (TAL) Resuscitation Media."

Fung, Daniel Y. C., (see **Getty, Kelly J. K.**, Animal Sciences and Industry).

Fung, Daniel Y. C., (see **Kastner, Curtis L.**, Animal Sciences and Industry).

Getty, Kelly J. K., and Fung, Daniel Y. C., US Department of Agriculture, \$124,693, "Validating E. coli O157:H7 in Direct Acidified Beef and Venison Semi-Dry Sausages."

Goodband, Robert D., (see **Tokach, Michael D.,** Animal Sciences and Industry).

Hancock, Joe D., (see **Tuinstra, Mitchell R.,** Agronomy).

Hastad, Chad W., (see **Tokach, Michael D.,** Animal Sciences and Industry).

Herald, Thomas L., (see **Aramouni, Fadi M.,** Animal Sciences and Industry).

Herald, Thomas L., (see **MacRitchie, Finlay I.,** Grain Science and Industry).

Hunt, Melvin C., (see **Dikeman, Michael E.,** Animal Sciences and Industry).

Johnson, Bradley J., (see **Drouillard, James S.,** Animal Sciences and Industry).

Kastner, Curtis L., Fung, Daniel Y. C., and Kropf, Donald H., US Department of Agriculture, \$364,169, "Animal Sciences and Industry Food Safety Consortium-Kansas State University."

Kastner, Curtis L., (see **Drouillard, James S.,** Animal Sciences and Industry).

Kastner, Curtis L., (see **Marsden, James L.,** Animal Sciences and Industry).

Kropf, Donald H., (see **Kastner, Curtis L.,** Animal Sciences and Industry).

Marsden, James L., National Cattlemen's Beef Association, \$207,650 (includes \$98,750 from Wolf-tec, Inc.), "Optimize the Quality, Consistency and Shelf-Life of Marinated Fresh Beef Products."

Marsden, James L., Kastner, Curtis L., Phebus, Randall K., and Thippareddi, Harshavardhan, National Cattlemen's Beef Association, \$34,125, "Development of an Integrated HACCP Plan and Microbiological Risk Assessment of Beef Trim and Intervention Treatments for Use as Raw Material for Ground Beef."

Marsden, James L., Kastner, Curtis L., Phebus, Randall K., and Thippareddi, Harshavardhan, National Cattlemen's Beef Association, \$48,750, "Molecular Characterization of Escherichia coli O157:H7 from Beef Animals, Environment and Foodborne Disease Outbreaks."

Marsden, James L., (see **Thippareddi, Harshavardhan,** Animal Sciences and Industry).

Nelssen, Jim L., Goodband, Robert D., and Tokach, Michael D. (Extension Animal Sciences and Industry), Hill's Pet Nutrition, Inc., \$28,500, "Effect of Protein Quality on Growth Performance in 11-27 kg Pigs - Phase 3."

Nelssen, Jim L., Goodband, Robert D., and Tokach, Michael D. (Extension Animal Sciences and Industry), Hill's Pet Nutrition, Inc., \$28,500, "Effect of Soybean Meal Quality on Protein Utilization in 11-27 kg Pigs."

Nelssen, Jim L., (see **Tokach, Michael D.,** Animal Sciences and Industry).

Phebus, Randall K., (see **Drouillard, James S.,** Animal Sciences and Industry).

Phebus, Randall K., (see **Marsden, James L.,** Animal Sciences and Industry).

Phebus, Randall K., (see **Thippareddi, Harshavardhan,** Animal Sciences and Industry).

Riley, Jack G., Kansas Beef Council, \$200,375, "Support of Regents Distinguished Professorship in Animal Sciences."

Thippareddi, Harshavardhan, Marsden, James L., and Phebus, Randall K., US Department of Agriculture, \$35,377, "Control of Listeria monocytogenes in Ready-to-Eat Meat Products Using a Combination of Saturated Steam-Based Post Process Pasteurization and Chemical Antimicrobials."

Thippareddi, Harshavardhan, (see **Marsden, James L.,** Animal Sciences and Industry).

Tokach, Michael D., Dritz, Steven S. (Food Animal Health and Management Center), **Goodband, Robert D., Hastad, Chad W., and Nelssen, Jim L.,** Exseed Genetics, \$14,550, "Evaluation of Nutridense Corn Hybrids for Nursery Pig Diets."

Tokach, Michael D., and Woodworth, Jason C., National Pork Producers Council, \$6,500, "Validation of Sow Weight Gain Models using Data from the National Pork Producers Council Maternal Line Genetic Evaluation Project."

Woodworth, Jason C., (see **Tokach, Michael D.,** Animal Sciences and Industry).

COMMUNICATIONS

Flores, Sandra A., (see **Penner, Karen P.,** Extension Animal Sciences and Industry).

Hartman, Amy L., Knapp, Mary C., and Schenck-Hamlin, Donna C. (Agricultural Experiment Station), Kansas Library Network, \$12,500, "Kansas Climate Collection."

Jackson, William L., Corporation for Public Broadcasting, \$18,089, "Radio Community Service Grant."

Jackson, William L., Kansas Department of Administration, \$52,435, "Kansas Public Broadcasters Council Service and Incentive Program."

OFFICE OF THE DEAN OF THE COLLEGE OF AGRICULTURE AND DIRECTOR OF THE AGRICULTURAL EXPERIMENT STATION

Johnson, Marc A., US Department of Agriculture, \$401,532, "USDA/ARS Research Support Agreement." (8 awards)

Johnson, Marc A., Multisponsor, \$21,027, "International Agriculture Program U. S. Foreign Training Other."

Wilson, Ron J., Kansas Agriculture and Rural Leadership, \$15,464, "Secretarial Support - Huck Boyd National Institute for Rural Development."

Wilson, Ron J., Kansas Agriculture and Rural Leadership, \$2,200, "Work-Study Student Hourly Support-Huck Boyd National Institute for Rural Development."

ENTOMOLOGY

Boyko, Elena V., (see **Smith, C. Michael,** Entomology).

Broce, Alberto B., US Department of Health and Human Services, \$65,000, "West Nile Virus Surveillance."

Buschman, Larry L., Dow AgroSciences, \$3,500, "Dow Research Project."

Buschman, Larry L., Multisponsor, \$13,500, "Insecticide Management of Field Crop Insects in Southwestern Kansas."

Buschman, Larry L., (see **Higgins, Randall A.,** Entomology).

Buschman, Larry L., (see **Wilde, Gerald E.,** Entomology).

Harvey, Tom L., Multisponsor, \$600, "Insecticide Management of Field Crop Insects."

Harvey, Tom L., (see **Garrett, Karen A.,** Plant Pathology).

Harvey, Tom L., (see **Kofoid, Kenneth D.,** Agricultural Research Center-Hays).

Harvey, Tom L., (see **Martin, Terry J.,** Agricultural Research Center-Hays).

Higgins, Randall A., Bayer Corporation, \$1,500, "Insecticide Efficacy and Pest Population Monitoring/Damage-Loss Assessments."

Higgins, Randall A., Syngenta, \$3,000, "Minimize Insect-Caused Losses to Alfalfa, Soybeans and Other Crops."

Higgins, Randall A., Buschman, Larry L., Ramaswamy, Sonny B., Schapaugh, William T. (Agronomy), and **Sloderbeck, Phillip E.** (Southwest Area Office), Kansas Soybean Commission, \$36,600, "Investigations on the Soybean Stem Borer in Kansas."

Higgins, Randall A., (see **Wilde, Gerald E.**, Entomology).

Huang, Fangneng, (see **Bhadriraju, Subramanyam**, Grain Science and Industry).

Kambhampati, Srinivas, Dow AgroSciences, \$3,000, "Dow Field Trials Project."

Rachinsky, Anna S., (see **Ramaswamy, Sonny B.**, Entomology).

Ramaswamy, Sonny B., Tougaloo College, \$12,500, "Tougaloo College Project."

Ramaswamy, Sonny B., US Department of Agriculture, \$16,500, "Biological Control of Stored Product Insects Pests."

Ramaswamy, Sonny B., US Department of Agriculture, \$77,645, "Facilitate Multiple Pest Resistant Wheat Germplasm Research."

Ramaswamy, Sonny B., and **Kadir, Sorkel M.** (Horticulture, Forestry and Recreation Resources), US Department of Agriculture, \$85,949, "Kansas Pesticide Usage Survey and Crop Profile Development."

Ramaswamy, Sonny B., and **Rachinsky, Anna S.**, US Department of Agriculture, \$130,000, "Heliothis virescens: Model for Signal Transduction of Allatropism in Moths."

Ramaswamy, Sonny B., (see **Higgins, Randall A.**, Entomology).

Reese, John C., (see **Kofoed, Kenneth D.**, Agricultural Research Center-Hays).

Smith, C. Michael, Kansas Crop Improvement Association, \$4,000, "Diagnostic Molecular Genetic Markers to Detect Multi-Gene Greenbug Resistance in Wheat."

Smith, C. Michael, National Science Foundation, \$56,640, "Plant Genomics Research and Training Career Advancement Program."

Smith, C. Michael, and **Boyko, Elena V.**, Kansas Wheat Commission, \$24,683, "Molecular Diagnosis of Wheat Aphid Resistance."

Wilde, Gerald E., Monsanto Company, \$7,000, "Efficacy of Lead Transgenic Corn Rootworm Event Against Western and Northern Corn Rootworm."

Wilde, Gerald E., Multisponsor, \$117,000, "Chemical Control of Insect Pests of Corn and Other Field Crops, Small Grain and Forage."

Wilde, Gerald E., Pioneer Hi-Bred International, Inc., \$2,000, "Product Transfer and Evaluation Agreement (Field Trials)."

Wilde, Gerald E., US Department of Agriculture, \$10,700, "Biologically Intensive Areawide IPM of the Russian Wheat Aphid and Greenbug."

Wilde, Gerald E., Buschman, Larry L., Higgins, Randall A., and **Sloderbeck, Phillip E.** (Southwest Area Office), US Department of Agriculture, \$115,622, "Development of a Corn Rootworm Areawide Management Program in Kansas."

Wilde, Gerald E., Buschman, Larry L., Higgins, Randall A., Sloderbeck, Phillip E. (Southwest Area Office), and **Zhu, Kun Yan**, US Department of Agriculture, \$267,378, "Development of a Corn Rootworm Areawide Management Program in Kansas."

Wilde, Gerald E., and **Roozeboom, Kraig L.** (Agronomy), Kansas Corn Commission, \$13,000, "Evaluation of Transgenic Corn for Corn Rootworm Pest Management."

Wilde, Gerald E., and **Wolf, Robert E.** (Biological and Agricultural Engineering), National Sunflower Association, \$8,000, "Effect of Timing and Number of Insecticide Applications on Sunflower Headmoth Control in Kansas."

Zhu, Kun Yan, (see **Wilde, Gerald E.**, Entomology).

GRAIN SCIENCE AND INDUSTRY

Bennett, Robert E., (see **Donnelly, Brendan J.**, Grain Science and Industry).

Bhadriraju, Subramanyam, and **Huang, Fangneng**, US Department of Agriculture, \$50,000, "Effects of a Novel Ultrasonic Emitter on the Mating Behavior and Reproductive Performance of the Indianmeal Moth—A Common Pest Associated with Grains and Processed Food Products."

Bhadriraju, Subramanyam, Huang, Fangneng, and **Toews, Michael D.**, Agrilience, LLC, Seed and Grain Protectant Group, \$20,000, "Efficacy of Actellic on Sunflower Seeds."

Bhadriraju, Subramanyam, Reed, Carl, and **Toews, Michael D.**, Kansas Wheat Commission, \$61,881, "Stored Wheat Insect Management with Spinosad and Aeration."

Bhadriraju, Subramanyam, Reed, Carl, and **Toews, Michael D.**, US Environmental Protection Agency, \$69,956, "Pesticide Alternatives and Pollution Prevention Techniques in Response to FQPA for Post-Harvest Ecosystems."

Donnelly, Brendan J., Kansas Corn Commission, \$72,600, "Market Development Grant - International Grains Program Grain Storage, Handling, and Sanitation Specialist."

Donnelly, Brendan J., Kansas Wheat Commission, \$14,675, "Protein/Hardness Screening of Early Progeny Wheats."

Donnelly, Brendan J., Nebraska Wheat Board, \$15,000, "International Grains Program Advisory Board."

Donnelly, Brendan J., Oklahoma Wheat Commission, \$15,000, "International Grains Program Wheat Advisory Board."

Donnelly, Brendan J., Texas Wheat Producers Board, \$30,000, "International Grains Program Advisory Board."

Donnelly, Brendan J., and **Bennett, Robert E.**, Kansas Wheat Commission, \$62,327, "Quality Evaluation from KAES Wheat Breeding Programs."

Donnelly, Brendan J., and **Howard, John E.**, Kansas Soybean Commission, \$36,600, "Market Development Grant - International Grains Program."

Donnelly, Brendan J., and **Howard, John E.**, Kansas Wheat Commission, \$200,000, "International Grains Program Support Project."

Herrman, Timothy J., Kansas Corn Commission, \$35,000, "Corn Dry Milling Performance."

Howard, John E., (see **Donnelly, Brendan J.**, Grain Science and Industry).

Huang, Fangneng, (see **Bhadriraju, Subramanyam**, Grain Science and Industry).

MacRitchie, Finlay I., Chung, Do Sup (Biological and Agricultural Engineering), and **Herald, Thomas L.** (Animal Sciences and Industry), Midwest Grain Products, Inc., \$20,000, "Characterization of Modified Gluten Protein."

Okot-Kotber, B. Moses, Kansas Crop Improvement Association, \$11,500, "Characterization of the Wheat Polyphenol Oxidase (PPO) Gene(s)."

Okot-Kotber, B. Moses, US Department of Agriculture, \$100,000, "Isolation and Evaluation of Wheat Serine Protease Inhibitors as Biopesticides and Modifiers."

Reed, Carl, (see **Bhadriraju, Subramanyam**, Grain Science and Industry).

Seib, Paul A., Kansas Wheat Commission, \$25,749, "Use of Low-Protein Hard White Wheats for Asian Noodles."

Seib, Paul A., US Department of Agriculture, \$80,180, "Development of Prediction Models for Wheat Quality Parameters."

Seib, Paul A., (see **Sun, X. Susan**, Grain Science and Industry).

Sun, X. Susan, Hill's Pet Nutrition, Inc., \$26,000, "Identification of Factors Affecting Petfood Durability."

Sun, X. Susan, US Department of Defense, \$21,316, "Development of Biodegradable Composite for Military Applications."

Sun, X. Susan, US Department of Defense, \$21,000, "Environmentally Favorable Adhesives."

Sun, X. Susan, **Hulbert, Scot H.** (Plant Pathology), **Schapaugh, William T.** (Agronomy), **Trick, Harold N.** (Plant Pathology), **Wang, Donghai** (Biological and Agricultural Engineering), and **Wang, Xuemin** (Biochemistry), US Department of Energy, \$401,962, "Affordable Resins and Adhesives from Optimized Soybean Varieties."

Sun, X. Susan, and **Seib, Paul A.**, Kansas Wheat Commission, \$9,160, "Biodegradable Plastics from Wheat Starch and Poly(lactic Acid)."

Sun, X. Susan, (see **Walker, Charles E.**, Grain Science and Industry).

Tilley, Katherine A., Kansas Wheat Commission, \$30,000, "Molecular Factors Involved in Determining Wheat Flour and Dough Quality."

Toews, Michael D., (see **Bhadriraju, Subramanyam**, Grain Science and Industry).

Walker, Charles E., and **Sun, X. Susan**, Kansas Wheat Commission, \$22,000, "Wheat for Chinese Northern-Style Steamed Bread."

HORTICULTURE, FORESTRY AND RECREATION RESOURCES

Becker, Constance D., Earthwatch Institute, \$1,972, "Ecuador Cloud Forest Research."

Becker, Constance D., Hummingbird Society, \$1,000, "Monitoring of Hummingbirds in the Loma Alta Ecological Reserve (Ecuador)."

Becker, Constance D., LASPAU: Academic and Professional Programs for the Americas, \$15,695, "Fulbright/LASPAU Fellowship for Boris Sanjur."

Becker, Constance D., (see **Gipson, Philip S.**, Biology).

Bremer, Dale J., **Fry, Jack D.**, and **Rajashekar, Channa B.**, Golf Course Superintendents Association of America, \$18,000 (includes \$9,000 from the Kansas Turfgrass Foundation), "Evaluation of Texas Bluegrass for Use in Golf Course Fairways and Roughs."

Bremer, Dale J., (see **Fry, Jack D.**, Horticulture, Forestry and Recreation Resources).

Cable, Ted T., (see **Gipson, Philip S.**, Biology).

Fagerness, Matthew, (see **Fry, Jack D.**, Horticulture, Forestry and Recreation Resources).

Fry, Jack D., **Bremer, Dale J.**, **Fagerness, Matthew**, and **Keeley, Steven J.**, Multisponsor, \$71,000, "Turfgrass Investigations."

Fry, Jack D., **Fagerness, Matthew**, **Huang, Bingru**, and **Keeley, Steven J.**, National Turfgrass Federation, \$8,000, "Turfgrass Testing."

Fry, Jack D., and **Huang, Bingru**, International Turf Producers Foundation, \$16,000, "Minimum Irrigation Requirements for Sod Production in Transition Zone."

Fry, Jack D., and **Huang, Bingru**, Kansas Golf Course Superintendents Association, \$10,000, "Converting Transition Zone Fairways from Perennial Ryegrass to Kentucky Bluegrass or Seeded Zoysiagrass."

Fry, Jack D., (see **Bremer, Dale J.**, Horticulture, Forestry and Recreation Resources).

Huang, Bingru, (see **Fry, Jack D.**, Horticulture, Forestry and Recreation Resources).

Keeley, Steven J., (see **Fry, Jack D.**, Horticulture, Forestry and Recreation Resources).

Marr, Charles W., (see **Higgins, Randall A.**, Entomology).

Mattson, Richard H., US Department of Agriculture, \$5,000, "Evaluation Component of Stardusters Topeka Urban Farm - Youth Job Training and Community Revitalization."

Rajashekar, Channa B., Republic of Korea, \$112,000, "Physiological Mechanisms Involved in Chilling and Cold Stresses to Induce Tolerant of Cucurbitaceae and Strawberry."

Rajashekar, Channa B., (see **Bremer, Dale J.**, Horticulture, Forestry and Recreation Resources).

Rajashekar, Channa B., (see **Carey, Edward E.**, Extension Horticulture, Forestry and Recreation Resources).

Reid, William R., Kansas Nut Growers Association, \$1,000, "Pecan Cultivar Evaluation."

Reid, William R., University of Missouri, \$14,811, "Missouri Pecan Growers."

Reid, William R., US Department of Agriculture, \$3,500, "Chemical Indicators of Pecan Germplasm Yield Potential and Alternate Bearing."

Schroeder, Kenneth R., J. Frank Schmidt Family Charitable Foundation, \$2,500, "Development of Fruitless or Embryo-Lethal Woody Ornamental Plants."

Williams, Kimberly A., Multisponsor, \$2,469, "Floriculture Research."

Williams, Kimberly A., (see **Carey, Edward E.**, Extension Horticulture, Forestry and Recreation Resources).

KANSAS CENTER FOR AGRICULTURE RESOURCES AND THE ENVIRONMENT

Beckman, Jana J., (see **Buchholz, Daryl D.**, Agriculture and Natural Resources).

Hargrove, William L., US Environmental Protection Agency, \$482,453, "Abatement of Fecal Coliform Bacteria."

Hargrove, William L., **Powell, G. Morgan** (Extension Biological and Agricultural Engineering), and **Willingham, Judith M.** (Extension Biological and Agricultural Engineering), Kansas Water Office, \$15,000, "Kansas Water Resources Adult Education."

Hargrove, William L., (see **Powell, G. Morgan**, Biological and Agricultural Engineering).

KANSAS WATER RESOURCE RESEARCH INSTITUTE

Hargrove, William L., Kansas Department of Agriculture, \$10,000, "Implementing TMDLs in Kansas: Abatement of Non-Point Sources of Fecal Coliform Bacteria."

Hargrove, William L., State Conservation Commission, \$45,000, "Watershed Specialist Initiative."

Hargrove, William L., US Department of the Interior, \$121,692 (includes \$36,907 from the University of Kansas), "Kansas Water Resources Research Institute."

NORTHWEST RESEARCH EXTENSION CENTER

Aiken, Robert M., National Sunflower Association, \$2,000, "Quantifying Heat and Water Stress Impacts on Yield and Water Use for Oilseed Sunflower Crops."

Aiken, Robert M., National Sunflower Association, \$3,000, "Strategies for the Management of the Sunflower Stem Weevil."

Aiken, Robert M., (see **Gordon, Walter B.**, Agronomy).

Aiken, Robert M., (see **Lamm, Freddie R.**, Northwest Research Extension Center).

Aiken, Robert M., (see **Schlegel, Alan J.**, Southwest Research Extension Center).

Coyne, Patrick J., Multisponsor, \$1,342, "Sunflower Performance Testing Program."

Lamm, Freddie R., Aiken, Robert M., Ham, Jay M. (Agronomy), and **O'Brien, Daniel M.** (Northwest Area Office), Kansas Corn Commission, \$10,000, "Reducing Irrigation Water Needs with High Frequency, Limited Subsurface Drip Irrigation."

Lamm, Freddie R., Klocke, Norman L. (Southwest Research Extension Center), **Peterson, Jeffrey M.** (Agricultural Economics), **Rogers, Danny H.** (Biological and Agricultural Engineering), and **Stone, Loyd R.** (Agronomy), US Department of Agriculture, \$73,734, "Water Conservation—Increased Efficiency in Usage."

Lamm, Freddie R., and **O'Brien, Daniel M.** (Northwest Area Office), Pioneer Hi-Bred International, Inc., \$2,500, "Economically Optimal Corn Plant Population at Various Irrigation Capacities Using Subsurface Drip Irrigation."

Lamm, Freddie R., (see **Alam, Mahbub U.**, Biological and Agricultural Engineering).

PLANT PATHOLOGY

Bockus, William W., Kansas Wheat Commission, \$25,500, "Development of Barley Yellow Dwarf-Resistant Wheat Cultivars for Kansas."

Bockus, William W., Multisponsor, \$5,400, "Seed Treatment."

Bockus, William W., and **Bowden, Robert L.**, Kansas Crop Improvement Association, \$4,000, "Development of Scab Resistant Winter Wheat Cultivars for Kansas."

Bowden, Robert L., Multisponsor, \$2,400, "Winter Wheat Seed Treatment Tests."

Bowden, Robert L., (see **Bockus, William W.**, Plant Pathology).

Clafin, Larry E., Pioneer Hi-Bred International, Inc., \$5,514, "International Scholarship Fund - Dario Narvaez."

Clafin, Larry E., US Agency for International Development, \$51,800, "Agroecology and Biotechnology of Fungal Pathogens for Sorghum and Millet."

Clafin, Larry E., (see **Tuinstra, Mitchell R.**, Agronomy).

Garrett, Karen A., Land Institute, \$12,000, "Perenniality, Cytogenetics, and Disease Resistance of Thinopyrum spp. X Triticum aestivum Hybrids and Genetic Heterogeneity Effects on Disease Epidemiology - Cindy M. Cox."

Garrett, Karen A., and **Fay, Philip A.** (Biology), National Science Foundation, \$152,275, "Collaborative Research: Effects of Environmental Variation on Plant Disease in the Tallgrass Prairie."

Garrett, Karen A., Harvey, Tom L. (Entomology), and **Seifers, Dallas L.** (Agricultural Research Center-Hays), US Department of Agriculture, \$88,100, "Managing Lands for Both Reduced Wheat Streak Mosaic Virus and Benefits to Wildlife and the Environment."

Gill, Bikram S., Kansas Wheat Commission, \$85,000, "Wheat Genetics Resource Center and Its Contributions to the Kansas Wheat Industry."

Gill, Bikram S., McKnight Foundation, \$324,480, "Better Understanding and Further Utilization of Genes for Wheat Scab Resistance."

Gill, Bikram S., National Science Foundation, \$161,096, "Assessment of the Insular Organization of the Wheat D Genome by Physical Mapping."

Gill, Bikram S., National Science Foundation, \$90,400, "Structure and Function of the Expressed Portion of the Wheat Genomes."

Gill, Bikram S., US Department of Agriculture, \$20,116, "Development and Characterization of Genetic Mutants in Durum and Common Wheat."

Gill, Bikram S., US Department of Agriculture, \$60,203, "Microsatellite Marker Development and Construction of a Microsatellite Size Database."

Gill, Bikram S., US Department of Agriculture, \$238,517, "Wheat Genetics Resource Center at Kansas State University."

Gill, Bikram S., (see **Fritz, Allan K.**, Agronomy).

Gill, Bikram S., (see **Trick, Harold N.**, Plant Pathology).

Hei, Leung. (see **Leach, Jan E.**, Plant Pathology).

Hulbert, Scot H., and **Leach, Jan E.**, National Science Foundation, \$228,963, "Functional and Comparative Genomics of NBS-LRR Encoding Genes."

Hulbert, Scot H., Leach, Jan E., and **Trick, Harold N.**, US Department of Agriculture, \$65,000, "Isolation of Maize Genes Controlling Defense Reactions to Pathogens of Cereals."

Hulbert, Scot H., (see **Sun, X. Susan**, Grain Science and Industry).

Jardine, Douglas J., Multisponsor, \$13,850, "Soybean Foliar Fungicide and Seed Treatment Tests."

Leach, Jan E., American Society for Microbiology, \$4,000, "UNESCO-ASM Travel Award."

Leach, Jan E., National Science Foundation, \$22,000, "Workshop on Genomic Analysis of Plant-Associated Microorganisms, April 9–11, 2002."

Leach, Jan E., US Agency for International Development, \$41,037, "Utilization of Candidate Genes for Analyzing Disease Resistance and Improving Broad-spectrum Disease Resistance in Rice."

Leach, Jan E., and **Hei, Leung.** National Science Foundation, \$500,000, "Activation-Tagged and Deletion Mutants and cDNA Microarrays for Functional Genomics of Rice."

Leach, Jan E., (see **Hulbert, Scot H.**, Plant Pathology).

Leslie, John F., American Society for Microbiology, \$9,000, "Editor Position for Applied and Environmental Microbiology."

Leslie, John F., Multisponsor, \$15,019, "Fusarium Research."

Leslie, John F., US Agency for International Development, \$49,000, "Agroecology and Biotechnology of Fungal Pathogens for Sorghum and Millet."

Nelson, James C., National Science Foundation, \$281,132, "Major Expansion of QGene, A Popular Genomic Software Package."

Tang, Xiaoyan. National Science Foundation, \$66,500, "Functional Genomics of the Interactions of Tomato and Pseudomonas syringae pv tomato DC3000."

Tang, Xiaoyan. and **Stewart, George C.** (Diagnostic Medicine/Pathobiology), US Department of Health and Human Services, \$186,266, "Structural Approaches for Control of Microbial Pathogens."

Tisserat, Ned A., Multisponsor, \$26,500, "Evaluation and Testing of Fungicides and Nematicides on Horticultural Crops."

Todd, Timothy C., (see **Schapaugh, William T.**, Agronomy).

Trick, Harold N., Fritz, Allan K. (Agronomy), **Gill, Bikram S.**, and **Muthukrishnan, Subbarat** (Biochemistry), Kansas Wheat Commission, \$81,000, "Wheat Improvement through Genetic Engineering."

Trick, Harold N., Muthukrishnan, Subbarat (Biochemistry), and **Schapaugh, William T.** (Agronomy), Kansas Soybean Commission, \$65,181, "Over-Expression of Antifungal Proteins in Transgenic Soybean."

Trick, Harold N., (see **Hulbert, Scot H.**, Plant Pathology).

Trick, Harold N., (see **Schapaugh, William T.**, Agronomy).

Trick, Harold N., (see **Sun, X. Susan**, Grain Science and Industry).

Zeigler, Robert S., Kansas State University Foundation, \$21,263, "Non-Conventional Plant Improvement Technology."

Zeigler, Robert S., US Department of Agriculture, \$25,000, "Cooperative Breeding Program for Wheat Karnal Bunt."

Zeigler, Robert S., US Department of Agriculture, \$60,509, "Facilitate Multiple Stress Resistant Wheat and Alfalfa Germplasm."

Zeigler, Robert S., US Department of Agriculture, \$900,000, "Plant Diagnostic Center Laboratories for Plant Disease and Pest Diagnosis and Surveillance."

Zhou, Jianmin, US Department of Agriculture, \$300,000, "General Resistance Mediated by Arabidopsis NHO Genes and Pseudomonas Virulence."

SOUTHEAST AGRICULTURAL RESEARCH CENTER

Kelley, Kenneth W., and **Sweeney, Daniel W.**, Kansas Soybean Commission, \$11,513, "Effects of Crop Rotation and Tillage Systems on Soybean Yield in Southeast Kansas."

Long, James H., National Crop Insurance Services, \$1,500, "Soybean Research in Southeast Kansas."

Long, James H., (see **Gordon, Walter B.**, Agronomy).

Long, James H., (see **Schapaugh, William T.**, Agronomy).

Moyer, Joseph L., Multisponsor, \$4,205, "Southeast Kansas Crop Performance Testing Program."

Moyer, Joseph L., (see **Sweeney, Daniel W.**, Southeast Agricultural Research Center).

Sweeney, Daniel W., and **Moyer, Joseph L.**, Multisponsor, \$750, "Soil Fertility and Management Investigations in Southeastern Kansas."

Sweeney, Daniel W., (see **Kelley, Kenneth W.**, Southeast Agricultural Research Center).

Sweeney, Daniel W., (see **Pierzynski, Gary M.**, Agronomy).

SOUTHWEST RESEARCH EXTENSION CENTER

Currie, Randall S., Multisponsor, \$41,100, "Weed Control Research in Southwest Kansas."

Klocke, Norman L., (see **Lamm, Freddie R.**, Northwest Research Extension Center).

Schlegel, Alan J., Multisponsor, \$1,000, "Soil Fertility and Soil Management Research for Western Kansas."

Schlegel, Alan J., Multisponsor, \$1,750, "Variety Testing of Alternative Crops."

Schlegel, Alan J., Aiken, Robert M. (Northwest Research Extension Center), and **Stone, Loyd R.** (Agronomy), National Sunflower Association, \$4,500, "Alleviation of Soil Compaction in Dryland Cropping Systems."

Schlegel, Alan J., Dumler, Troy (Southwest Area Office), and **Stone, Loyd R.** (Agronomy), Kansas Corn Commission, \$24,000, "Irrigated Cropping Systems to Reduce Irrigation Water Use and Groundwater Depletion while Sustaining Profitability."

Schlegel, Alan J., Dumler, Troy (Southwest Area Office), and **Stone, Loyd R.** (Agronomy), Kansas Grain Sorghum Commission, \$12,000, "Irrigated Cropping Systems to Reduce Irrigation Water Use and Groundwater Depletion While Sustaining Profitability."

Schlegel, Alan J., Schmidt, John P. (Agronomy), **Taylor, Randal K.** (Biological and Agricultural Engineering), and **Thompson, Curtis R.** (Southwest Area Office), Kansas Corn Commission, \$25,500, "Iron (Fe) Chlorosis: Addressing a Familiar Problem with New Technology."

Schlegel, Alan J., (see **Leikam, Dale F.**, Agronomy).

Schlegel, Alan J., (see **Willson, Thomas C.**, Southwest Research Extension Center).

Willson, Thomas C., Alam, Mahbub U. (Biological and Agricultural Engineering), **Dumler, Troy** (Southwest Area Office), and **Schlegel, Alan J.**, Kansas Corn Commission, \$10,728, "Manure and Water Management for Environmental Protection and Corn Production."

Witt, Merle D., Multisponsor, \$6,000, "Yield Appraisal of Crops for Southwestern Kansas - Yield Appraisals of Immature Corn."

Witt, Merle D., (see **Gordon, Walter B.**, Agronomy).

COLLEGE OF ARCHITECTURE, PLANNING, AND DESIGN

ARCHITECTURE

Hoag, Richard L., Metropolitan Community Colleges of Nebraska, \$5,000, "Metropolitan Community College Studio Project."

Sachs, David H., (see **Dubois, James H.**, Interior Architecture).

OFFICE OF THE DEAN OF THE COLLEGE OF ARCHITECTURE, PLANNING AND DESIGN

Law, Dennis L., US Department of Defense, \$60,000, "Historic Buildings Masterplan."

Norris-Baker, Carolyn, and **Altus, Deborah** (School of Family Studies and Human Services), US Department of Health and Human Services, \$135,515 (includes \$40,075 from Kansas Mental Health and Aging Coalition and \$900 from a Private Consultant), "Mental Health and Aging: Further Dissemination and Evaluation of Information from A Mental Health Guide for Older Kansans and Their Families."

INTERIOR ARCHITECTURE

Dubois, James H., Rolley, Stephanie A. (Landscape Architecture/Regional and Community Planning), and **Sachs, David H.** (Architecture), City of Ottawa, Kansas., \$4,300, "Ottawa Collaborative Studio Project."

LANDSCAPE ARCHITECTURE/ REGIONAL AND COMMUNITY PLANNING

Keithley, Claude A., (see **Lawhon, Larry L.**, Landscape Architecture/Regional and Community Planning).

Lawhon, Larry L., and **Keithley, Claude A.**, US Department of Housing and Urban Development, \$89,991, "Community Development Work Study Program."

Rolley, Stephanie A., National Trust for Historic Preservation, \$18,000, "Your Town: Designing Its Future Workshop."

Rolley, Stephanie A., (see **Dubois, James H.**, Interior Architecture).

COLLEGE OF ARTS AND SCIENCES

BIOCHEMISTRY

Davis, Lawrence C., (see **Erickson, Larry E.**, Center for Hazardous Substance Research).

Kanost, Michael R., 3M Corporation, \$5,820, "Transfer of KSU Materials to 3M Corporation."

Kanost, Michael R., US Department of Health and Human Services, \$109,000, "Adhesion Receptors of the Insect Immune System."

Kanost, Michael R., US Department of Health and Human Services, \$242,756, "Proteinase Systems in Insect Hemolymph."

Kanost, Michael R., and **Kramer, Karl J.**, National Science Foundation, \$125,000, "Regulation of Protein Cross-Linking for Insect Cuticle Sclerotization."

Kramer, Karl J., (see **Kanost, Michael R.**, Biochemistry).

Muthukrishnan, Subbarat, (see **Liang, George H.**, Agronomy).

Muthukrishnan, Subbarat, (see **Trick, Harold N.**, Plant Pathology).

Prakash, Om, US Department of Health and Human Services, \$10,944, "Immunogenic Tumor-Associated Mucin Peptides."

Roche, Thomas E., US Department of Health and Human Services, \$254,625, "Regulation of Mammalian Pyruvate Dehydrogenase."

Takemoto, Dolores J., Idaho Wheat Commission, \$30,000, "Cancer Protective Effects of Wheats with Different Antioxidant Potentials."

Takemoto, Dolores J., and **Boyle, Daniel L.** (Biology), US Department of Health and Human Services, \$332,217, "Protein Kinase C Gamma in the Lens."

Tomich, John M., **Mitchell, Kathy E.** (Anatomy and Physiology), and **Schultz, Bruce D.** (Anatomy and Physiology), US Department of Health and Human Services, \$209,664, "Role of Ordered Helical Segments in Membrane Proteins."

Wang, Xuemin, National Science Foundation, \$6,000, "Regulation and Function of Membrane Lipid Hydrolysis in Lipid-Based Signaling of Plants."

Wang, Xuemin, Shah, Jyoti (Biology), and **Welti, Ruth** (Biology), National Science Foundation, \$309,979, "Metabolomic Profiling of Membrane Lipids and Their Compositional Dynamics in Plant Stress Responses."

Wang, Xuemin, (see **Sun, X. Susan**, Grain Science and Industry).

Yu, Xiao-Qiang, US Department of Health and Human Services, \$173,775, "Lectins in Insect Immunity."

Zolkiewska, Anna, US Department of Health and Human Services, \$50,925, "Molecular Analysis of Metalloprotease Disintegrin ADAM 12."

Zolkiewski, Michal, US Department of Health and Human Services, \$181,875, "Structure and Function of Hsp100 Proteins."

DIVISION OF BIOLOGY

Asano, Katsura, US Department of Health and Human Services, \$255,885, "Studies on Start Codon Selection by Eukaryotic Ribosomes."

Blair, John M., **Fay, Philip A.**, and **Knapp, Alan K.**, US Department of Energy, \$131,000, "Belowground Responses to Multiple Climate Change Factors: Interactive Effects of Warming and More Extreme Precipitation Patterns on Grassland Ecosystems."

Blair, John M., **McGrath, Diane** (Foundations and Adult Education), and **Wright, Valerie F.**, US Department of Education, \$23,498, "Hands-On Ecological Science with Internet Connectivity at Konza Prairie Biological Station."

Blair, John M., (see **Johnson, Loretta C.**, Biology).

Blair, John M., (see **Knapp, Alan K.**, Biology).

Boyle, Daniel L., (see **Takemoto, Dolores J.**, Biochemistry).

Briggs, John M., (see **Knapp, Alan K.**, Biology).

Brown, Susan J., US Department of Health and Human Services, \$77,113, "Kansas Biomedical Research Infrastructure Network (K-BRIN)."

Chapes, Stephen K., National Aeronautics and Space Administration, \$337,293, "Differentiation of Bone Marrow Macrophages in Space."

Chapes, Stephen K., National Aeronautics and Space Administration, \$155,832, "Influence of Gravity as a Determinant in Cellular Biology."

Chapes, Stephen K., US Department of Health and Human Services, \$256,124, "Kansas Biomedical Research Infrastructure Network (K-BRIN) Training and Mentoring Core."

Chapes, Stephen K., and **Musch, Timothy I.** (Kinesiology), US Department of Health and Human Services, \$9,000, "2002 Summer Semester Scholarships."

Chapes, Stephen K., (see **Uhlarik, John J.**, Psychology).

Clem, Rollie J., US Department of Health and Human Services, \$33,260, "Characterization of Insect Rpr, Hid, and Grim Homologs - Angela J. Fagerness."

Clem, Rollie J., US Department of Health and Human Services, \$162,747, "Functional Analysis of Anti-Apoptotic IAP Proteins."

Conrad, Gary W., US Department of Health and Human Services, \$343,766, "Fibroblast Differentiation During Eye Development."

Cully, Jr., Jack F., US Department of Agriculture, \$5,000, "Community and Landscape Dynamics of Sylvatic Plague in Black-Tailed Prairie Dogs."

Cully, Jr., Jack F., US Department of Agriculture, \$4,000, "Community and Landscape Dynamics of Sylvatic Plague in Black-Tailed Prairie Dogs at the Kiowa and Rita Blanca Natural Grasslands."

Cully, Jr., Jack F., US Department of the Interior, \$80,000, "Community and Landscape Dynamics of Sylvatic Plague in Black-Tailed Prairie Dogs."

Cully, Jr., Jack F., US Department of the Interior, \$63,000, "Metapopulation Ecology of the Black-Tailed Prairie Dog: A Keystone Species of Badlands National Park."

Cully, Jr., Jack F., and **Kaufman, Glennis A.**, US Department of the Interior, \$72,000, "Gap Analysis in Kansas."

Denell, Robin E., US Department of Health and Human Services, \$258,153, "Genetic Control of Segmentation."

Dodds, Walter K., National Science Foundation, \$229,999, "Nitrate Uptake and Retention in Streams: Mechanisms and Effects of Human Disturbances from Stream Reaches to Landscapes."

Dodds, Walter K., Sigma Xi, \$300, "Consequences of Breeding Habitat Selection for Population Dynamics in a Tallgrass Prairie Amphibian - Nicole Gerlanc."

Dodds, Walter K., (see **Gido, Keith B.**, Biology).

Fay, Philip A., (see **Blair, John M.**, Biology).

Fay, Philip A., (see **Garrett, Karen A.**, Plant Pathology).

Gido, Keith B., and **Dodds, Walter K.**, US Department of the Interior, \$50,000, "Development of Aquatic GAP Analysis for Kansas."

Gipson, Philip S., Kansas Department of Wildlife and Parks, \$40,000, "Establishment and Operation of the Kansas Cooperative Fish and Wildlife Research Unit."

Gipson, Philip S., Niobrara Council, \$5,000, "Avian Study on the Fort Niobrara National Wildlife Refuge."

Gipson, Philip S., US Department of the Interior, \$287,500, "Responses of Northern Bobwhite to Landscape Scale Habitat Improvements."

Gipson, Philip S., **Becker, Constance D.** (Horticulture, Forestry and Recreation Resources), **Cable, Ted T.** (Horticulture, Forestry and Recreation Resources), and **Rintoul, David A.**, US Department of the Interior, \$15,000, "Responses of Birds and Other Wildlife to Recreation Along the Niobrara River, Fort Niobrara National Wildlife Refuge."

Gipson, Philip S., and **Pontius, Jeffrey S.** (Statistics), US Department of the Interior, \$425,628, "Land Condition Trend Analysis on Fort Riley."

Guikema, James A., National Aeronautics and Space Administration, \$6,190, "Administrative Support for the Executive Committee of the Kansas NASA EPSCoR Program."

Guy, Christopher S., US Department of the Interior, \$93,950, "Food Habits of Hybrid Striped Bass in Harlan County Reservoir."

Hartnett, David C., National Science Foundation, \$111,766, "Construction of Duplex-Unit Housing for Visiting Researchers at the Konza Prairie Biological Station."

Herman, Michael A., US Department of Health and Human Services, \$379,570, "Control of Cell Polarity in *C. elegans*."

Herman, Michael A., US Department of Health and Human Services, \$62,929, "High Throughput Screening and Sorting of Nematodes."

Johnson, Loretta C., National Science Foundation, \$53,738, "Belowground Carbon and Nutrient Dynamics in Arctic Tundra Under Changing Climates."

Johnson, Loretta C., and **Blair, John M.**, National Aeronautics and Space Administration, \$194,762, "Scaling Up the Ecosystem Consequences of Forest Expansion in the Great Plains Region."

Johnson, Terry C., Kansas State University Foundation, \$30,000, "Cancer Center Core."

Johnson, Terry C., National Aeronautics and Space Administration, \$725,042, "BioServe Space Technologies - A NASA Center for the Commercial Development of Space."

Johnson, Terry C., US Department of Health and Human Services, \$95,563, "Virology and Tumor Biology."

Kaufman, Donald W., (see **Kaufman, Glennis A.**, Biology).

Kaufman, Glennis A., Kansas Department of Wildlife and Parks, \$45,000, "GAP Products from GAP Analysis in Kansas."

Kaufman, Glennis A., US Department of the Interior, \$75,000, "Development and Evaluation of GAP-Related Educational Products." (2 awards)

Kaufman, Glennis A., and **Kaufman, Donald W.**, Kansas Department of Wildlife and Parks, \$31,824, "On-Line Mammal Atlas for Kansas."

Kaufman, Glennis A., (see **Cully, Jr., Jack F.**, Biology).

Knapp, Alan K., National Aeronautics and Space Administration, \$80,590, "Intergovernmental Personnel Act (IPA) Mobility Assignment Program."

Knapp, Alan K., **Blair, John M.**, and **Briggs, John M.**, National Science Foundation, \$692,010, "Long-Term Ecological Research in Tallgrass Prairie: The Konza LTER Program."

Knapp, Alan K., (see **Blair, John M.**, Biology).

Knapp, Alan K., (see **Owensby, Clenton E.**, Agronomy).

Marchin, George L., PentaPure, Inc., \$12,000, "Testing of Water Filter and Purification Devices."

Montelone, Beth A., and **Upton, Steve J.**, American Water Works Association Research Foundation, \$60,728, "Detection of Genes Encoding UV Repair Enzymes in *Cryptosporidium*."

Passarelli, A. Lorena, US Department of Health and Human Services, \$173,085, "Purification and Crystal Structure of a Novel Baculovirus RNA Polymerase Subunit."

Perchellet, Jean-Pierre H., US Department of Health and Human Services, \$83,667, "High Throughput Screening and Target Identification."

Perchellet, Jean-Pierre H., and **Hua, Duy H.** (Chemistry), US Department of Health and Human Services, \$196,425, "Triptycene Analogs: Novel Bifunctional Anticancer Drugs."

Perchellet, Jean-Pierre H., (see **Todd, Scott C.**, Biology).

Rintoul, David A., (see **Gipson, Philip S.**, Biology).

Shah, Jyoti, US Department of Agriculture, \$131,000, "Lipid Signaling and NPR1-Independent Pathway in Plant Defense."

Shah, Jyoti, (see **Wang, Xuemin**, Biochemistry).

Smith, Ann S., (see **Shroyer, Margaret G.**, Elementary Education).

Spooner, Brian S., US Department of Agriculture, \$10,000, "Wildlife Services Collaboration and Support Agreement."

Spooner, Brian S., US Department of Health and Human Services, \$25,000, "Von Ohlen Start-Up Support."

Takemoto, Larry J., US Department of Health and Human Services, \$600,000, "Lens Membrane in Relation to Human Cataractogenesis."

Todd, Scott C., and **Baures, Paul W.** (Chemistry), US Department of Health and Human Services, \$305,198, "H2-Receptor and Tetraspanins as Novel Cancer Therapy Targets."

Todd, Scott C., and **Perchellet, Jean-Pierre H.**, Kansas Technology Enterprise Corporation, \$17,000, "Kansas NIH COBRE Center for Cancer Experimental Therapeutics."

Upton, Steve J., US Department of Health and Human Services, \$25,666, "In vitro Assay for *Cryptosporidiosis*."

Upton, Steve J., (see **Montelone, Beth A.**, Biology).

Welti, Ruth, (see **Wang, Xuemin**, Biochemistry).

With, Kimberly A., US Environmental Protection Agency, \$107,462, "Assessment of Extinction Risk in Dynamic Landscapes."

Wright, Valerie F., (see **Blair, John M.**, Biology).

CHEMISTRY

Baures, Paul W., Kansas Technology Enterprise Corporation, \$8,500, "Kansas NIH COBRE Center for Cancer Experimental Therapeutics."

Baures, Paul W., (see **Todd, Scott C.**, Biology).

Buszek, Keith B., Kansas Technology Enterprise Corporation, \$8,500, "Kansas NIH COBRE Center for Cancer Experimental Therapeutics."

Buszek, Keith B., US Department of Health and Human Services, \$83,664, "Synthesis of Lactone and Alkaloid Antitumor Agents."

Collinson, Maryanne M., National Science Foundation, \$212,800, "Preparation and Characterization of Templated Sol-Gel Derived Materials."

Fateley, William G., (see **Hammaker, Robert M.**, Chemistry).

Hammaker, Robert M., and **Fateley, William G.**, Defense Advanced Research Projects Agency, \$100,397, "Metabolic Chemical Monitoring through Spectral Chemometry with MEMS."

Hollingsworth, Mark D., National Aeronautics and Space Administration, \$90,000, "Crystal Growth of New Families of Ferroelastic Materials."

Hua, Duy H., National Science Foundation, \$15,000, "Chiral 8,8' - Disubstituted 1,1' - Binaphthyls in Asymmetric Catalysis."

Hua, Duy H., US Department of Defense, \$15,495, "Evaluations of New Anti-Ebola Compounds for Walter Reed Army Institute of Research."

Hua, Duy H., (see **Perchellet, Jean-Pierre H.**, Biology).

Kelley, Anne M., National Science Foundation, \$46,666, "Research Experiences for Undergraduates in Chemistry at Kansas State University."

Kelley, Anne M., National Science Foundation, \$243,800, "Solvent Effects on Structure and Optical Properties of Push-Pull Molecules."

Kelley, Anne M., US Department of Defense, \$257,525, "Aggregation Effects on Structures and Nonlinear Optical Properties of Push-Pull Chromophores."

Kelley, David F., US Department of Energy, \$225,000, "Photophysics of Two-Dimensional Semiconductor Nanoparticle/Liquid Interfaces."

Klabunde, Kenneth J., National Science Foundation, \$42,870, "Synthesis of Large Quantities of Conductive Nanoparticles. Possible Applications in Batteries."

Klabunde, Kenneth J., US Department of Defense, \$508,198, "Enzyme, Antibody, and Photocatalytically Active Nanoscale Scavengers and Sensors for Chemical Warfare and Biological Agents."

Klabunde, Kenneth J., and **Sorensen, Christopher M.** (Physics), National Aeronautics and Space Administration, \$101,500, "Nanocrystal Superlattices: Synthesis and Properties."

Maatta, Eric A., US Department of Energy, \$108,000, "New Vistas for Functionalized Polyoxometalates."

Ortiz, J. Vincent, American Chemical Society, \$14,500, "Structure and Bonding in Free and Hydrated Dicarboxylate Dianions."

Ortiz, J. Vincent, National Science Foundation, \$21,178, "Ab Initio Electron Propagator Calculations on Molecular Anions."

Ortiz, J. Vincent, National Science Foundation, \$429,000, "Electron Propagator Theory and Anion Electronic Structure."

Sherwood, Peter M., Kansas Technology Enterprise Corporation, \$165,054, "Kansas Defense 2000."

Sherwood, Peter M., Kansas Technology Enterprise Corporation, \$127,455, "Kansas Defense 2010."

Sherwood, Peter M., National Science Foundation, \$186,000, "Corrosion and Oxide-Free Surfaces Probed by Surface Analysis."

Sherwood, Peter M., **Lease, Kevin B.** (Mechanical and Nuclear Engineering), and **Wang, Youqi** (Mechanical and Nuclear Engineering), National Aeronautics and Space Administration, \$159,186, "Studies of the Role of Surface Treatment and Sizing of Carbon Fiber Surfaces on the Mechanical Properties of Composites Containing Carbon Fibers."

Warmuth, Ralf, US Department of Health and Human Services, \$149,926, "Structural Investigation of Unnatural Peptide Helices."

ECONOMICS

Babcock, Michael W., Kansas Department of Transportation, \$45,000, "Case Studies of the Economic Impact of Highway Bypasses in Kansas."

Babcock, Michael W., Kansas Department of Transportation, \$150,000, "Economic Impacts of Railroad Abandonment on Rural Kansas Communities."

Ragan, Jr., James F., Multisponsor, \$3,139, "Roe R. Cross Chair of Economics."

Turner, Tracy M., US Department of Agriculture, \$20,000, "Rural and Urban Households: Homeownership and Wealth Creation."

Turner, Tracy M., US Department of Housing and Urban Development, \$54,724, "Effect of Homeownership on the Financial Security of Low-Income Households."

ENGLISH

Rodgers, Lawrence R., John E. and Grace M. Bohannon, \$128, "Bohannon Award."

GEOGRAPHY

Goodin, Douglas G., **Harrington, Jr., John A.**, and **Hutchinson, J. M. Shawn**, National Aeronautics and Space Administration, \$292,709, "HYSPIRE: Hyper-Resolution Remote Sensing of Kansas Rural Environments."

Goodin, Douglas G., and **Harrington, Jr., John A.**, National Aeronautics and Space Administration, \$161,902, "Spatial and Spectral Scale Dimensions for Modeling Kansas Rural Resource Systems: Projections for Global Change."

Goodin, Douglas G., (see **Harrington, Jr., John A.**, Geography).

Goodin, Douglas G., (see **Uhlarik, John J.**, Psychology).

Goodin, Douglas G., (see **White, Stephen E.**, Geography).

Harrington, Jr., John A., US Department of Energy, \$23,919, "Predicted Global Change on Livestock Reproduction and Performance."

Harrington, Jr., John A., **Goodin, Douglas G.**, **Harrington, Lisa M.**, **Lu, Max**, and **White, Stephen E.**, National Science Foundation, \$14,082, "REU Site - Infrastructure to Develop a Human-Environment Regional Observation Network."

Harrington, Jr., John A., (see **Goodin, Douglas G.**, Geography).

Harrington, Jr., John A., (see **Hutchinson, J. M. Shawn**, Geography).

Harrington, Jr., John A., (see **White, Stephen E.**, Geography).

Harrington, Lisa M., (see **Harrington, Jr., John A.**, Geography).

Harrington, Lisa M., (see **White, Stephen E.**, Geography).

Hutchinson, J. M. Shawn, Union Pacific Corporation, \$1,700, "Developing Maps Depicting Health Plans Offered to Union Pacific Nonagreement Employees."

Hutchinson, J. M. Shawn, and **Harrington, Jr., John A.**, US Department of Agriculture, \$25,000, "Compilation and Digitizing of Soil Surveys (SSURGO)."

Hutchinson, J. M. Shawn, (see **Goodin, Douglas G.**, Geography).

Lu, Max, (see **Harrington, Jr., John A.**, Geography).

Lu, Max, (see **White, Stephen E.**, Geography).

Paul, Bimal K., National Science Foundation, \$69,770, "Health Seeking Behavior of Arsenic Patients in Rural Bangladesh."

White, Stephen E., Goodin, Douglas G., Harrington, Jr., John A., Harrington, Lisa M., and Lu, Max, National Science Foundation, \$60,000, "Infrastructure to Develop a Human-Environment Regional Observatory Network."

White, Stephen E., (see **Harrington, Jr., John A.**, Geography).

GEOLOGY

Archer, Allen W., American Chemical Society, \$58,960, "Origin and Characteristics of the Floodplain Deposits in the Amazon River Mouth."

Clement, Monica D., (see **Gao, Stephen S.**, Geology).

Gao, Stephen S., Clement, Monica D., Hubbard, Mary S., Liu, Kelly, and Oviatt, Charles G., National Science Foundation, \$27,250, "Equipment for Undergraduate Field Geophysics Courses."

Gao, Stephen S., and Liu, Kelly, National Science Foundation, \$150,110, "Seismic Study of Continental Orogenic Zones: The Rocky Mountains and the Midcontinent Rift."

Gao, Stephen S., (see **Liu, Kelly**, Geology).

Hubbard, Mary S., (see **Gao, Stephen S.**, Geology).

Hubbard, Mary S., (see **Uhlarik, John J.**, Psychology).

Liu, Kelly, and Gao, Stephen S., National Science Foundation, \$186,108, "Searching for Seismic Discontinuities in the Lower Mantle Using Broadband Seismic Data."

Liu, Kelly, (see **Gao, Stephen S.**, Geology).

Oviatt, Charles G., (see **Gao, Stephen S.**, Geology).

HISTORY

Higham, Robin, Journal of the West, Inc., \$7,449, "Journal of the West."

Holl, Jack M., Kansas State University Foundation, \$17,000, "Institute for Military History and 20th Century Studies."

A. Q. MILLER SCHOOL OF JOURNALISM AND MASS COMMUNICATIONS

Oukrop, Carol E., James L. and John S. Knight Foundation, \$4,000, "Still More Than You Ever Wanted to Know About Women in Journalism and Mass Communication Education."

Simon, Todd F., Journalism Education Association, \$515,273, "Establishment of the Journalism Education Association National Headquarters at Kansas State University."

Simon, Todd F., Kansas Board of Regents, \$6,500, "Development and Management of Websites."

Simon, Todd F., Kansas State University Foundation, \$60,604, "Construction of KSDB Radio Station in K-State Union."

Simon, Todd F., Multisponsor, \$43,649, "Journalism and Mass Communications Website Management."

KINESIOLOGY

Dzwaltowski, David A., US Department of Health and Human Services, \$429,801, "Youth Environments Promoting Nutrition and Activity."

MATHEMATICS

Bennett, Andrew G., (see **Shroyer, Margaret G.**, Elementary Education).

Bennett, Andrew G., (see **Zollman, Dean A.**, Physics).

Rosenberg, Alexander, National Science Foundation, \$42,300, "D-modules on Noncommutative Spaces, Noncommutative Local Algebra and Representations, Noncommutative Smooth Spaces."

MUSIC

Hunt, Paul B., John E. and Grace M. Bohannon, \$128, "Bohannon Award."

PHYSICS

Bolton, Timothy A., Kansas Technology Enterprise Corporation, \$135,681, "Kansas Advanced Semiconductor Project (KASP)."

Bolton, Timothy A., (see **Demina, Regina**, Physics).

Bolton, Timothy A., (see **Reay, Neville W.**, Physics).

Chakrabarti, Amitabha, (see **Sorensen, Christopher M.**, Physics).

Chang, Zenghu, US Department of Energy, \$100,937, "100 Femtosecond X-Ray Detector."

Cocke, Charles L., and DePaola, Brett D., National Science Foundation, \$325,340, "Acquisition of Laser Equipment for the Study of the Interaction of Intense Laser Pulses with Fast Ion Beams and Neural Systems."

Demina, Regina, Bolton, Timothy A., Reay, Neville W., Sidwell, Ronald A., and Stanton, Noel R., National Science Foundation, \$125,716, "Development of a Silicon Vertex Detector for the Higgs Search at the Tevatron Collider."

Demina, Regina, Bolton, Timothy A., Reay, Neville W., Sidwell, Ronald A., and Stanton, Noel R., US Department of Energy and National Science Foundation, \$114,681, "Compact Muon Solenoid - Sensors."

Demina, Regina, (see **Reay, Neville W.**, Physics).

DePaola, Brett D., (see **Cocke, Charles L.**, Physics).

Esry, Brett D., National Science Foundation, \$55,000, "Theoretical Investigation of Few-Body Systems."

Jiang, Hongxing, Edgar, James H., (Chemical Engineering), and **Rys, Andrew** (Electrical and Computer Engineering), \$4,700, "Advanced Semiconductor Research Group in the State of Kansas."

Jiang, Hongxing, and Lin, Jingyu, National Science Foundation, \$132,434, "III-Nitride Wide Bandgap Semiconductors for Optical Communications."

Jiang, Hongxing, and Lin, Jingyu, US Department of Defense, \$122,562, "Fabrication and Optical Recombination in III-Nitride Microstructures and Devices."

Jiang, Hongxing, and Lin, Jingyu, US Department of Defense, \$150,000, "III-Nitride UV Optoelectronic Devices."

Jiang, Hongxing, and Lin, Jingyu, US Department of Defense, \$200,000, "III-Nitride UV Optoelectronic Devices for Bio-Agents Detection."

Jiang, Hongxing, and Lin, Jingyu, US Department of Defense, \$176,497, "Instrumentation for AlGaIn/GaN Heterostructure Nano-Scale Electronic and Optoelectronic Device Fabrication."

Jiang, Hongxing, and Lin, Jingyu, US Department of Defense, \$20,000, "Micro- and Nano-Cavity Blue/UV Photonic Devices."

Jiang, Hongxing, and Lin, Jingyu, US Department of Energy, \$100,000, "Optical and Electrical Properties of III-V Nitride Wide Bandgap Semiconductors."

Jiang, Hongxing, (see **Lin, Jingyu**, Physics).

Law, Bruce M., American Chemical Society, \$80,000, "Roughness-Induced Wetting Transitions."

Law, Bruce M., National Science Foundation, \$120,000, "Interfacial Phenomena Near Phase Transitions."

Lin, Jingyu, and Jiang, Hongxing, National Science Foundation, \$160,736, "Nitride Quantum Wells and Photonic Structures - Growth, Optical Studies and Applications."

Lin, Jingyu, (see **Jiang, Hongxing**, Physics).

Rahman, Talat S., National Science Foundation, \$20,000, "27th International Nathiagali Summer College on Physics and Contemporary Needs: Islamabad, Pakistan 24th June - 5th July, 2002."

Rahman, Talat S., US Department of Energy, \$82,000, "Theoretical Studies of Structure, Dynamics and Thermodynamic of Nanostructures and Surfaces: Metals and Alloys."

Reay, Neville W., Bolton, Timothy A., Demina, Regina, Sidwell, Ronald A., and Stanton, Noel R., US Department of Energy, \$181,935, "D0 Silicon Microstrip Detector Project."

Reay, Neville W., Bolton, Timothy A., Demina, Regina, Sidwell, Ronald A., and Stanton, Noel R., US Department of Energy, \$715,000, "Heavy Quark and Neutrino Physics."

Reay, Neville W., (see **Demina, Regina**, Physics).

Rebello, N. Sanjay, National Science Foundation, \$81,467, "Research on Students' Mental Models, Learning and Transfer as a Guide to Application-Based Curriculum Development and Instruction in Physics."

Richard, Patrick, US Department of Energy, \$2,395,000, "Structure and Dynamics of Atoms, Ions, Molecules, and Surfaces."

Sidwell, Ronald A., (see **Demina, Regina**, Physics).

Sidwell, Ronald A., (see **Reay, Neville W.**, Physics).

Sorensen, Christopher M., and **Chakrabarti, Amitabha**, National Aeronautics and Space Administration, \$90,000, "Gelation in Aerosols: Non-Mean-Field Aggregation Kinetics."

Sorensen, Christopher M., (see **Klabunde, Kenneth J.**, Chemistry).

Stanton, Noel R., (see **Demina, Regina**, Physics).

Stanton, Noel R., (see **Reay, Neville W.**, Physics).

Thumm, Uwe, National Science Foundation, \$40,000, "Quantum Dynamics in Particle—Solid Interactions."

Thumm, Uwe, US Department of Energy, \$34,998, "Strong External Field Effects in Decay and Photodetachment of Negative Ions."

Zollman, Dean A., and **Bennett, Andrew G.** (Mathematics), National Science Foundation, \$339,618, "Conceptual Model-Based Assessment and Technology: Research in Student Application of Models in Physics and Mathematics."

Zollman, Dean A., (see **Staver, John R.**, Dean of Education).

PSYCHOLOGY

Downey, Ronald G., Hemenover, Scott H., and Rappoport, Leon H., US Department of Defense, \$141,371, "Personality and Job Burnout: Can Coping Skill Training Reduce Job Burnout."

Fullagar, Clive J. A., (see **Shanteau, James C.**, Psychology).

Hemenover, Scott H., (see **Downey, Ronald G.**, Psychology).

Hemenover, Scott H., (see **Shanteau, James C.**, Psychology).

Kiefer, Stephen W., Pew Charitable Trusts, \$32,169, "Establishing a Model Infrastructure to Sustain Communities for Peer Review of Teaching."

Kiefer, Stephen W., US Department of Health and Human Services, \$172,211, "Lead: Attention, Impulsivity, and Dopamine."

Rappoport, Leon H., (see **Downey, Ronald G.**, Psychology).

Shanteau, James C., Fullagar, Clive J. A., and Hemenover, Scott H., US Department of Defense, \$134,457, "Selecting and Classifying the 'Good Sailor': Exploring the Non-Cognitive Predictors of Expert Team Performance in Complex Technological Contexts."

Smith, Kip C. S., US Department of Defense, \$152,646, "Mitigating Stress, Workload, and Fatigue on the Electronic Battlefield."

Uhlarik, John J., US Department of Transportation, \$50,000, "Cockpit Displays of Digital Weather and Operational Information: Identification and Summary of Human Factors Issues."

Uhlarik, John J., Chapes, Stephen K. (Biology), **Goodin, Douglas G.** (Geography), and **Hubbard, Mary S.** (Geology), National Aeronautics and Space Administration, \$82,000, "Kansas Space Grant Consortium."

Uhlarik, John J., (see **J. Garth Thompson**, Mechanical and Nuclear Engineering).

SOCIOLOGY, ANTHROPOLOGY, AND SOCIAL WORK

Bloomquist, Leonard E., US Department of Agriculture, \$5,820, "Plastics Recycling: Using Agricultural Materials to Enhance Performance."

Cauble, A. Elizabeth, (see **Williams, L. Susan**, Sociology, Anthropology, and Social Work).

Nofziger, Stacey, US Department of Justice, \$34,980, "Correlates and Consequences of Juvenile Exposure to Violence: A Replication and Extension of Major Findings from the Adolescent Youth Survey."

Williams, L. Susan, and **Cauble, A. Elizabeth**, US Department of Justice, \$12,000, "Juvenile Justice Authority: Community Needs Assessment."

STATISTICS

Milliken, George A., Kansas Water Office, \$25,000, "Assessment: General Statistical Assistance."

Pontius, Jeffrey S., (see **Gipson, Philip S.**, Biology).

COLLEGE OF BUSINESS ADMINISTRATION

ACCOUNTING

Donnelly, David P., US Department of Defense, \$138,387, "Comprehensive Model of the Employee's Turnover Decision Process."

Vruwink, David R., (see **Niehoff, Brian P.**, Dean of Business Administration).

OFFICE OF THE DEAN OF THE COLLEGE OF BUSINESS ADMINISTRATION

Niehoff, Brian P., McCahon, Cynthia S. (Management), and **Vruwink, David R.** (Accounting), Multisponsor, \$3,500, "MBA Practicum."

MANAGEMENT

McCahon, Cynthia S., (see **Niehoff, Brian P.**, Dean of Business Administration).

Pagell, Mark D., Kansas State University Foundation, \$6,000, "Payless ShoeSource Faculty Internship."

Prince, J. Bruce, US Department of Defense, \$99,202, "Building and Retaining Human Capital through the Assignment Process."

Turnley, Jr., William H., US Department of Defense, \$68,738, "Role of Psychological Contracts in Recruitment and Retention."

SMALL BUSINESS DEVELOPMENT CENTER

Rice, Frederick H., Kansas Small Business Development Center, \$20,000, "Small Business Development Center."

Rice, Frederick H., US Small Business Administration, \$164,097, "Small Business Development Center."

COLLEGE OF EDUCATION

OFFICE OF THE DEAN OF THE COLLEGE OF EDUCATION

Allen, David S., and **Bay-Williams, Jennifer M.** (Elementary Education), US Department of Education, \$42,463, "Improving Mathematics through a Problem-Based Approach to Content Teaching (IMPACT): Ogden Elementary School's Investigations in Problem Solving with an Emphasis on Theory, Practice and Curriculum."

Flaherty, Roberta D., National Academic Advising Association, \$443,313, "National Academic Advising Association Executive Office."

Havlicek, Barbara J., Kansas Foundation for Agriculture in the Classroom, \$50,808, "Kansas Foundation for Agriculture in the Classroom."

Havlicek, Barbara J., Multisponsor, \$5,445, "Council for Public School Improvement."

Havlicek, Barbara J., Multisponsor, \$28,138, "Educational Computer Assistance."

Havlicek, Barbara J., WorldCom Foundation, \$25,000, "MarcoPolo State Administrator Grant."

Havlicek, Barbara J., and **Newhouse, Barbara S.** (Regents' Educational Communications Center), AT&T Foundation, \$105,000, "AT&T/KSU Project Solve."

Herrera, Socorro G., US Department of Education, \$17,920, "Dos Puentes."

Herrera, Socorro G., US Department of Education, \$177,900, "Project COLLABORATE."

Herrera, Socorro G., US Department of Education, \$181,000, "Project Ramos Secundarios."

Herrera, Socorro G., US Department of Education, \$21,845, "Supporting Innovative Leaders in Today's Schools."

Herrera, Socorro G., US Department of Education, \$241,000, "Project Besitos."

Herrera, Socorro G., US Department of Education, \$33,500, "Project Future's Edge."

Herrera, Socorro G., US Department of Education, \$34,200, "Salida Del Sol."

Herrera, Socorro G., US Department of Education, \$405,160, "Operation ADVANCE. (Achieving Values and Accomplishments for Migrant Adults through Networking Community Entities)."

Herrera, Socorro G., USD 253, Emporia, \$11,326, "Emporia School District."

Herrera, Socorro G., USD 253, Emporia, \$12,000, "Data Support Programmer."

Herrera, Socorro G., and **Murry, Kevin G.** (Foundations and Adult Education), US Department of Education, \$20,000, "New Teachers for New Students."

Holen, Michael C., John E. and Grace M. Bohannon, \$192, "Bohannon Award."

McCann, Kevin M., US Department of Education, \$37,800, "USD #378 Memorandum of Agreement."

Murry, Kevin G., US Department of Education, \$78,975, "Las Estrellas."

Murry, Kevin G., US Department of Education, \$219,447, "Project Alcance."

Murry, Kevin G., US Department of Education, \$197,345, "Project CALLE 2000 (Computer Assisted Language Learning for Education)."

Murry, Kevin G., US Department of Education, \$225,600, "Project Dimelo."

Murry, Kevin G., (see **Herrera, Socorro G.**, Dean of Education).

Rankin, Charles I., US Department of Education, \$732,451, "Midwest Equity Assistance Center."

Ross, Tweed R., US Department of Education, \$39,030, "Knowledge Development for the Technology Integration Community."

Shroyer, Margaret G., US Department of Education, \$39,986, "Professional Development School in Western Kansas."

Shuman, Cindy, US Department of Education, \$37,500, "USD #378 Memorandum of Agreement."

Soldan, Dorothy B., (see **Wissman, Janice R.**, Dean of Education).

Staver, John R., Community Online Resource Exchange, \$10,000, "CORE and COE Memorandum of Agreement."

Staver, John R., **Shroyer, Margaret G.** (Elementary Education), and **Zollman, Dean A.** (Physics), National Science Foundation, \$390,566, "Kansas Collaborative for Excellence in Teacher Preparation."

Steichen, Ethel M., US Department of Education, \$35,886, "Off to a Good Start 21st Century Community Learning Center."

Wissman, Janice R., and **Soldan, Dorothy B.**, Paul Ross Charitable Foundation, \$35,600, "Personal Finance Teacher Training/Curriculum Project."

Wright, Emmett L., Multisponsor, \$52,948, "Educational, Cultural and Scientific Cooperation Between the Oblast of Voronezh, the Russian Federation, and the State of Kansas."

Wright, Emmett L., National Aeronautics and Space Administration, \$25,060, "NOVA On-Line ESS."

ELEMENTARY EDUCATION

Bay-Williams, Jennifer M., (see **Allen, David S.**, Dean of Education).

Goldston, M. Jenice, Kansas Health Foundation, \$26,037, "Kansas First for Community Education."

Norton-Meier, Lori A., and **Goodson, R. Todd**, (Secondary Education), US Department of Education, \$20,000, "Flint Hills Writing Project."

Shroyer, Margaret G., **Bennett, Andrew G.**, (Mathematics), **Smith, Ann S.**, (Biology), and **Yahnke, Sally J.** (Secondary Education), US Department of Education, \$1,316,994, "Improving Teacher Quality through the Kansas State University Professional Development Schools Partnership."

Shroyer, Margaret G., (see **Staver, John R.**, Dean of Education).

FOUNDATIONS AND ADULT EDUCATION

McGrath, Diane, (see **Blair, John M.**, Biology).

Ross, Tweed R., US Department of Education, \$290,107 (includes \$12,683 from Highland Community College; \$12,683 from Cloud County Community College; \$12,683 from USD 383, Manhattan; and \$12,683 from USD 475, Junction City), "Teachers Teaching with Technology Academy."

SECONDARY EDUCATION

Goodson, F. Todd, (see **Norton-Meier, Lori A.**, Elementary Education).

Kane, Mary R., Kansas State Department of Education, \$70,604, "FFA-YF/YFW Organizations."

Kane, Mary R., US Department of Education, \$11,222, "Provide Inservice Activities for Beginning Teachers in Agriculture Education."

Kane, Mary R., US Department of Education, \$2,000, "Provide Web Based and Computer Generated Leadership Materials for the Kansas FFA Association."

Kane, Mary R., US Department of Education, \$6,075, "Rewrite Ag Ed Standards."

Yahnke, Sally J., (see **Shroyer, Margaret G.**, Elementary Education).

SPECIAL EDUCATION

White, Warren J., (see **Zabel, Mary Kay**, Special Education).

Zabel, Mary Kay, and **White, Warren J.**, US Department of Education, \$39,998, "IDEA State Improvement Grant."

COLLEGE OF ENGINEERING

ADVANCED MANUFACTURING INSTITUTE

Chalfant, Mark A., (see **Kramer, Bradley A.**, Advanced Manufacturing Institute).

Kramer, Bradley A., Kansas Technology Enterprise Corporation, \$900,000, "Kansas Technology Enterprise Corporation Center of Excellence Grant."

Kramer, Bradley A., and **Chalfant, Mark A.**, Mid-America Manufacturing Technology Center, \$638,589 (includes \$171,000 from Kansas Technology Enterprise Corporation), "Agreement to Operate MAMTC Regional Office."

Kramer, Bradley A., (see **Tucker, Jeffrey W.**, Advanced Manufacturing Institute).

Tucker, Jeffrey W., Multisponsor, \$121,377, "Advanced Manufacturing Institute-Manufacturing Learning Center."

Tucker, Jeffrey W., US Department of Defense, \$8,975, "First Stage Rotor Arbor and Blade Grinding Measurement Tool and Second Stage Rotor Blade Grinding Measurement Tool."

Tucker, Jeffrey W., and **Kramer, Bradley A.**, Multisponsor, \$124,096, "Advanced Manufacturing Institute-Manufacturing Learning Center."

ARCHITECTURAL ENGINEERING AND CONSTRUCTION SCIENCE

Knight, Daniel G., Federal Emergency Management Agency, \$43,845, "Evaluating Tornado Refuge Areas Workshop - Kansas City, Missouri; Joplin, Missouri; Lincoln, Nebraska."

Knight, Daniel G., Federal Emergency Management Agency, \$45,000, "Workshops for Evaluating and Prioritizing Tornado Refuge Areas in Schools."

BIOLOGICAL AND AGRICULTURAL ENGINEERING

Barnes, Philip L., Kansas Corn Growers Association, \$27,912, "Pesticide Applicator Timing Used as a Best Management Practice to Improve Water Quality."

Barnes, Philip L., Novartis, \$27,000, "Atrazine Monitoring Project: Joint Nebraska/Kansas Blue River Study."

Barnes, Philip L., US Environmental Protection Agency, \$94,941, "Joint State Atrazine Big Blue River Monitoring Project."

Chung, Do Sup, (see **MacRitchie, Finlay I.**, Grain Science and Industry).

Clark, Gary A., **Fjell, Dale L.** (Agronomy), and **Rogers, Danny H.**, Kansas Water Office, \$91,000, "Technical Assistance to Water Users: Kansas State Water Assistance Team-Mobile Lab."

Clark, Gary A., (see **Martin, Victor L.**, Agronomy).

Mankin, Kyle R., Kansas Department of Health and Environment, \$173,792, "Performance Evaluation of Wetlands in Northeast Kansas."

Mankin, Kyle R., (see **Pierzynski, Gary M.**, Agronomy).

Rogers, Danny H., (see **Lamm, Freddie R.**, Northwest Research Extension Center).

Rogers, Danny H., (see **Martin, Victor L.**, Agronomy).

Wang, Donghai, US Department of Agriculture, \$53,500, "Automated Detection of Single Kernel Grain Attributes."

Wang, Donghai, (see **Sun, X. Susan**, Grain Science and Industry).

Zhang, Naiqian, US Department of Agriculture, \$65,835, "Development of Calibrations and Procedures for a High Speed Machine Vision Grain Inspection System."

Zhang, Naiqian, (see **Neilsen, Mitchell L.**, Computing and Information Sciences).

CENTER FOR HAZARDOUS SUBSTANCE RESEARCH

Erickson, Larry E., US Environmental Protection Agency, \$125,000, "Cooperative Agreement between U. S. Environmental Protection Agency and Kansas State University to Provide Technical Assistance in Support of Bioremediation and Phytoremediation Research in Kazakhstan."

Erickson, Larry E., US Department of Defense, \$28,223, "Plan to Provide Technical Support for Assessment: Application of Non-Lethal Technologies against the Weapons of Mass Destruction (WMD) Threat."

Erickson, Larry E., and **Davis, Lawrence C.** (Biochemistry), US Department of Defense, \$611, "Phytoremediation Near Parsons, Kansas."

Erickson, Larry E., and **Hayter, Richard B.** (Extension Engineering), US Environmental Protection Agency, \$375,080, "Collateral Great Plains/Rocky Mountain Hazardous Substance Research Center Program."

Erickson, Larry E., and **Hayter, Richard B.** (Extension Engineering), US Environmental Protection Agency, \$28,948 (includes \$28,528 from Colorado School of Mines), "Great Plains/Rocky Mountain Hazardous Substance Research Center."

Erickson, Larry E., and **Griswold, Wendy M.**, US Environmental Protection Agency, \$66,775, "Science and Traditional Knowledge: International Exchange of Indigenous Peoples in Water Quality Monitoring and River Management between Russia and the United States."

Erickson, Larry E., and **Kulakow, Peter A.** (Agronomy), US Department of Defense, \$4,330, "Assessment of Plant Root Development in Alternative Cover Plots at Rocky Mountain Arsenal, Colorado."

Erickson, Larry E., and **Leven, Blase A.**, US Environmental Protection Agency, \$6,660, "Technical Assistance to Brownfields in EPA Region 8."

Griswold, Wendy M., (see **Erickson, Larry E.**, Center for Hazardous Substance Research).

Leven, Blase A., Hamilton Consortium, \$36,724, "Hamilton Consortium Phase I Evaluation Proposal."

Leven, Blase A., (see **Erickson, Larry E.**, Center for Hazardous Substance Research).

Leven, Blase A., (see **Reddi, Lakshmi N.**, Civil Engineering).

CHEMICAL ENGINEERING

Edgar, James H., Kansas Technology Enterprise Corporation, \$36,146, "Epitaxial Growth of Icosahedral Boride Semiconductors for Novel Energy Conversion Devices."

Edgar, James H., US Department of Defense, \$45,000, "Rapid Growth of Bulk Aluminum Nitride Crystals."

Edgar, James H., US Department of Energy, \$139,106, "Epitaxial Growth of Icosahedral Boride Semiconductors for Novel Energy Conversion Devices."

Edgar, James H., (see **Jiang, Hongxing**, Physics).

Erickson, Larry E., and **Hosni, Mohammad H.** (Mechanical and Nuclear Engineering), Kansas Technology Enterprise Corporation, \$50,000, "Environmental Air Quality."

Gehrke, Stevin H., National Aeronautics and Space Administration, \$39,065, "Design, Synthesis and Characterization of Well-Defined, Biomimetic Polypeptide Networks."

Glasgow, Larry A., National Science Foundation, \$54,429, "Floc Deformation and Floc Microproperties."

Hohn, Keith L., Kansas Technology Enterprise Corporation, \$21,861, "X-Ray Absorption Studies of Vanadium-Containing Metal Oxide Nanocrystals."

Hohn, Keith L., US Department of Energy, \$108,940, "X-Ray Absorption Studies of Vanadium-Containing Metal Oxide Nanocrystals."

Schlup, John R., US Department of Energy, \$112,908, "Establishment of a Graduate Certificate Program in Biobased Industrial Products."

CIVIL ENGINEERING

Bhandari, Alok, National Science Foundation, \$12,000, "Engineered Humification Processes: An Innovative Approach to Remediate Hazardous Waste Sites."

Bhandari, Alok, (see **Starrett, Steven K.**, Civil Engineering).

Hossain, Mustaque A., Kansas Department of Transportation, \$1,304, "Adaptability of AASHTO Provisional Standards for Condition Survey in Kansas."

Hossain, Mustaque A., Kansas Department of Transportation, \$8,985, "Investigation and Quantification of Factors Affecting Aggregate Specific Gravities as Determined by KDOT Test Method KT-6."

Hossain, Mustaque A., US Department of Transportation, \$104,696, "Adaptability of AASHTO Provisional Standard for Condition Survey in Kansas."

Hossain, Mustaque A., (see **Romanoschi, Stefan A.**, Civil Engineering).

Landman, E. Dean, (see **Russell, Eugene R.**, Civil Engineering).

Mathews, Alexander P., National Science Foundation, \$94,445, "Enhanced Oxidation of High Molecular Weight Organics Using Ozone Isotopomers."

Mathews, Alexander P., National Science Foundation, \$2,650, "US-Hong Kong Planning Visit: International Cooperative Research Program on Environmental Quality Control Using Adsorption Process."

Mathews, Alexander P., US Department of Agriculture, \$23,300, "Fermentation and Resin Extraction of Acetate/Propionate from Dilute Solutions."

Melhem, Hani G., (see **Peterman, Robert J.**, Civil Engineering).

Najjar, Yacoub M., National Science Foundation, \$33,329, "Retrainable Class of Constitutive Models for Sand: A Neuro-Mechanistic Approach."

Peterman, Robert J., Kansas Department of Transportation, \$13,725, "Acquisition of Damaged Prestressed Concrete Beams for Assessment of FRP Repair Methods."

Peterman, Robert J., Kansas Department of Transportation, \$12,460, "Determining Self-Compacting Concrete Properties Critical to the Performance of Prestressed Concrete Members."

Peterman, Robert J., Kansas Department of Transportation, \$6,750, "Evaluation of the Inverted-Tee Shallow Bridge System for Use in Kansas."

Peterman, Robert J., Kansas Department of Transportation, \$17,000, "Evaluating FRP Repair Method for Cracked Prestressed Concrete Bridge Members Subjected to Repeated Loadings."

Peterman, Robert J., Kansas Department of Transportation, \$11,865, "Performance Assessment of a Damaged FRP Bridge Before and After Repair."

Peterman, Robert J., and **Melhem, Hani G.**, Stresscon Corporation, \$10,530, "Evaluation of the Strand Development Length in Cracked Prestressed Concrete Members under Cyclic Loading."

Peterman, Robert J., and **Rasheed, Hayder A.**, Kansas Department of Transportation, \$80,025, "Evaluating FRP Repair Method for Cracked Prestressed Concrete Bridge Members Subjected to Repeated Loadings." (2 awards)

Rasheed, Hayder A., (see **Peterman, Robert J.**, Civil Engineering).

Reddi, Lakshmi N., John E. and Grace M. Bohannon, \$192, "Bohannon Award."

Reddi, Lakshmi N., National Aeronautics and Space Administration, \$106,957, "Flow and Distribution of Fluid Phases Through Porous Plant Growth Media in Microgravity."

Reddi, Lakshmi N., US Department of Transportation, \$29,674, "Engineering Overview of a Road Recycling Machine for Portland Cement Concrete Pavement."

Reddi, Lakshmi N., and **Leven, Blase A.** (Center for Hazardous Substance Research), US Environmental Protection Agency, \$72,500, "Midwest Hazardous Substance Research Center Technical Assistance to Brownfields."

Reddi, Lakshmi N., and **Leven, Blase A.** (Center for Hazardous Substance Research), US Environmental Protection Agency, \$165,500, "Technical Outreach and Service to Native American Communities (TOSNAC)."

Romanoschi, Stefan A., Kansas Department of Transportation, \$52,000, "Resilient Modulus and the Fatigue Properties of Kansas HMA Mixes."

Romanoschi, Stefan A., and **Hossain, Mustaque A.**, US Department of Transportation, \$269,992, "Performance of Foamed Asphalt Stabilized Base in Full-Depth Reclaimed Asphalt Pavement."

Russell, Eugene R., Kansas Department of Transportation, \$35,000, "Administration of KDOT/K-TRAN Program."

Russell, Eugene R., US Department of Transportation, \$105,163, "Traffic Assistance Services for Kansas (TASK)."

Russell, Eugene R., and **Landman, E. Dean**, Kansas Department of Transportation, \$37,500, "Assessment of a Personal Rapid Transit System within a University Campus and Surrounding Community."

Russell, Eugene R., **Rys, Malgorzata J.** (Industrial and Manufacturing Systems Engineering), and **Stokes, Robert W.**, Kansas Department of Transportation, \$13,280, "Center of Lane Rumble Strips."

Starrett, Steven K., US Golf Association, \$23,632, "Comparing Nutrient Losses via Runoff from a New Golf Course and the Golf Course Site's Previous Native Condition."

Starrett, Steven K., and **Bhandari, Alok**, Kansas Army National Guard, \$55,000, "Preliminary Environmental Assessment of Lateral Field Used for Liquid Disposal from Kansas National Guard Maintenance Facility #11."

Starrett, Steven K., **Bhandari, Alok**, **Thien, Stephen J.** (Agronomy), and **Xia, Kang** (Agronomy), US Golf Association, \$30,000, "Fate of Pesticides and Their Partitioning among Water, Soil and Biomass Elements in a Turfgrass Ecosystem."

Stokes, Robert W., (see **Russell, Eugene R.**, Civil Engineering).

Walker, Jr., Hugh S., US Department of Transportation, \$10,975, "Effect of Moisture/Drainage on Non-Reinforced PCCP and Performance of FRP and Steel Dowels as Joint Repairs."

COMPUTING AND INFORMATION SCIENCES

Andresen, Daniel A., National Aeronautics and Space Administration, \$30,571, "Software Architectures for Autonomous Communications Systems."

Andresen, Daniel A., National Science Foundation, \$52,514, "DESPO: Enhanced Dynamic Process Management for Beowulf Clusters on the Grid."

Andresen, Daniel A., **Neilsen, Mitchell L.**, and **Singh, Gurdip**, National Science Foundation, \$12,000, "DHARMA: Domain-Specific Metaware for Hydrologic Applications."

Andresen, Daniel A., (see **Neilsen, Mitchell L.**, Computing and Information Sciences).

Banerjee, Anindya, National Science Foundation, \$123,445, "Type Systems and Program Analyses for Secure and Reliable Interactive Web Services."

Dwyer, Matthew B., **Hatcliff, John M.**, **Mizuno, Masaaki**, **Neilsen, Mitchell L.**, and **Singh, Gurdip**, US Department of Defense, \$285,000, "Automatic Derivation, Integration, and Verification of Synchronization Aspects in Object-Oriented Design Methods."

Dwyer, Matthew B., and **Hatcliff, John M.**, US Department of Defense, \$618,145, "Software Model Checking for Embedded Systems."

Hatcliff, John M., Rockwell Collins, Inc., \$25,000, "Assessment of Required Functionality/Proposal Specialization Environment."

Hatcliff, John M., (see **Dwyer, Matthew B.**, Computing and Information Sciences).

Hsu, William H., and **Chang, Shing I.** (Industrial and Manufacturing Systems Engineering), US Department of Defense, \$106,634, "Real-Time Temporal Probabilistic Inference using Bayesian Networks: Decision Support in Manpower and Personnel Management."

Hsu, William H., (see **Chang, Shing I.**, Industrial and Manufacturing Systems Engineering).

Mizuno, Masaaki, (see **Dwyer, Matthew B.**, Computing and Information Sciences).

Mizuno, Masaaki, (see **Neilsen, Mitchell L.**, Computing and Information Sciences).

Neilsen, Mitchell L., KVASER AB., \$65,150, "Real-Time CAN Systems."

Neilsen, Mitchell L., **Andresen, Daniel A.**, and **Mizuno, Masaaki**, US Department of Agriculture, \$47,500, "Software Tools for Watershed Dam Design/Analysis."

Neilsen, Mitchell L., **Lenhert, Donald H.** (Electrical and Computer Engineering), **Mizuno, Masaaki**, **Singh, Gurdip**, and **Zhang, Naiqian** (Biological and Agricultural Engineering), National Science Foundation, \$15,000, "Real-Time Embedded Systems Research and Curriculum Development."

Neilsen, Mitchell L., (see **Andresen, Daniel A.**, Computing and Information Sciences).

Neilsen, Mitchell L., (see **Dwyer, Matthew B.**, Computing and Information Sciences).

Schmidt, David A., National Science Foundation, \$57,712, "Design Conformant Software."

Schmidt, David A., National Science Foundation, \$86,417, "Open Source Quality Project."

Singh, Gurdip, National Science Foundation, \$149,871, "Coordination Services for Distributed Applications."

Singh, Gurdip, (see **Andresen, Daniel A.**, Computing and Information Sciences).

Singh, Gurdip, (see **Dwyer, Matthew B.**, Computing and Information Sciences).

Singh, Gurdip, (see **Neilsen, Mitchell L.**, Computing and Information Sciences).

Wallentine, Virgil E., Multisponsor, \$56,806, "CIS Internship Program."

Wallentine, Virgil E., (see **Chapman, Kirby S.**, National Gas Machinery Laboratory).

OFFICE OF THE DEAN OF THE COLLEGE OF ENGINEERING

King, Terry S., Multisponsor, \$14,753, "Pre-Enrollment Mathematics and Sciences Tutoring of Minority Engineering Recruits."

ELECTRICAL AND COMPUTER ENGINEERING

Carpenter, Kenneth H., US Department of Energy, \$60,647, "Integrated Firing-System/Initiation-Train Modeling Enhancement."

Carpenter, Kenneth H., US Department of Energy, \$53,013, "Multipoint Simulations and Microtransformer Design."

Devault, James E., and **Miller, Ruth D.**, Kansas Department of Transportation, \$69,000, "Field Verification Instrument to Assess the Placement Accuracy of Dowel Bars and Tie Bars in PCCP."

Kuhn, William B., National Science Foundation, \$11,701, "Combining Research and Education in Developing Fully Integrated Wireless Transceivers."

Lenhert, Donald H., (see **Neilsen, Mitchell L.**, Computing and Information Sciences).

Miller, Ruth D., (see **Devault, James E.**, Electrical and Computer Engineering).

Pahwa, Anil, ABB Power T&D Company, Inc., \$20,000, "Feature-Based Prediction of Failure Rates of Distribution System Components."

Pahwa, Anil, National Science Foundation, \$6,000, "Further Investigation of the Impacts of Cold Load Pickup on Design and Operation of Electric Power Distribution Systems."

Rys, Andrew, (see **Jiang, Hongxing**, Physics).

Simons, Gale G., Kansas Corporation Commission, \$25,000, "Cost-Effective Solar Power in the Heartland."

Tucker, Jeffrey W., US Department of Defense, \$6,240, "Solid Modeling of Turbine Engine Parts."

Warren, Steven, National Science Foundation, \$75,000, "Beyond Telemedicine: Realizing a Proactive Home Health Care Delivery Model through Research and Education in Plug-and-Play Components and Novel Sensors."

Warren, Steven, Spatial Corporation, \$58,500, "Software Components for Research and Education."

ENGINEERING EXPERIMENT STATION

Jones, Byron W., Kansas Technology Enterprise Corporation, \$2,000, "ADMRC Administration."

INDUSTRIAL AND MANUFACTURING SYSTEMS ENGINEERING

Ben-Arieh, David H., (see **Chang, Shing I.**, Industrial and Manufacturing Systems Engineering).

Chang, Shing I., **Ben-Arieh, David H.**, **Hsu, William H.** (Computing and Information Sciences), **Lee, E. Stanley**, and **Rys, Malgorzata J.**, Kansas Department of Transportation, \$41,644, "GPS Data Integration and Development of a Three-Dimensional Spatial Model of the Kansas Highway Network."

Chang, Shing I., **Ben-Arieh, David H.**, **Hsu, William H.** (Computing and Information Sciences), and **Rys, Malgorzata J.**, Kansas Department of Transportation, \$71,975, "Production of Sub-Standard Stopping Sight Distance Data Set and Development of Highway Design Verification and Passing Sight Distance Analysis via GPS Spatial Models."

Chang, Shing I., (see **Hsu, William H.**, Computing and Information Sciences).

Hanna, Steven R., Raytheon Aircraft Company, \$43,733, "Composite Materials for Aerospace Research."

Harnett, R. Michael, US Department of Defense, \$36,436, "Part-Time M.S. Program in Industrial Engineering - Fall 2001."

Harnett, R. Michael, US Department of Defense, \$18,204, "Part-Time M.S. Program in Industrial Engineering - Spring 2002."

Harnett, R. Michael, US Department of Defense, \$18,060, "Part-Time M. S. Program in Industrial Engineering - Summer 2002."

Kramer, Bradley A., Kansas State University Foundation, \$5,850, "Neuro-Fuzzy Approach to Humanistic Systems."

Lee, E. Stanley, (see **Chang, Shing I.**, Industrial and Manufacturing Systems Engineering).

Lei, Shuting, National Science Foundation, \$375,000, "Design and Development of Novel Responsive Cutting Tools for Laser-Assisted Machining and Diagnosis of Structural Ceramics: A Research Integrated Education CAREER Landscape."

Lei, Shuting, National Science Foundation, \$35,000, "Design, Development, and Realization of CAREER Landscape through Mentor Partnership: Dr. Shuting Lei's CAREER Development, a Case Study."

Pei, Zhijian, US Department of Energy, \$19,082, "Laser Scattering Measurement of Subsurface Damage in Silicon Wafers and Ceramic Materials."

Rys, Malgorzata J., (see **Chang, Shing I.**, Industrial and Manufacturing Systems Engineering).

Rys, Malgorzata J., (see **Russell, Eugene R.**, Civil Engineering).

INSTITUTE FOR ENVIRONMENTAL RESEARCH

Eckels, Steven, (see **Hosni, Mohammad H.**, Mechanical and Nuclear Engineering).

Hosni, Mohammad H., Multisponsor, \$112,911, "Institute for Environmental Research Support."

Hosni, Mohammad H., and **Jones, Byron W.**, RS Electronics - Livonia, \$147,000, "Human Testing and Manikin Calibration Testing for Climate Control Occupant Comfort."

Hosni, Mohammad H., (see **Erickson, Larry E.**, Chemical Engineering).

Jones, Byron W., (see **Hosni, Mohammad H.**, Institute for Environmental Research).

KANSAS INDUSTRIAL EXTENSION SERVICES

El-Rayes, Hamdy, US Environmental Protection Agency, \$400,000, "KSU Pollution Prevention Institute to Operate the Technical Assistance Program."

Green, Ryan M., (see **Nelson, Richard G.**, Kansas Industrial Extension Services).

Meyer, Gene M., Kansas Corporation Commission, \$70,000, "Kansas Energy Extension Services."

Meyer, Gene M., US Department of Commerce, \$8,237, "Assistance to the Office of Applied Economics for Life Cycle Cost Training."

Meyer, Gene M., US Department of Energy, \$63,889, "Continuing Efforts to Achieve Building Energy Code Compliance in Kansas."

Nelson, Richard G., **Devlin, Daniel L.** (Agronomy), **Fjell, Dale L.** (Agronomy), and **Langemeier, Michael R.** (Agricultural Economics), US Environmental Protection Agency, \$46,000, "Crop Rotations to Protect Water Quality - Miami County."

Nelson, Richard G., **Green, Ryan M.**, and **Williams, Jeffrey L.** (Agricultural Economics), US Environmental Protection Agency, \$70,000, "Kansas Pollution Prevention Enhancement Program."

Snead, Bruce C., US Environmental Protection Agency, \$18,016, "Michigan Radon Workshops." (2 awards)

Snead, Bruce C., US Environmental Protection Agency, \$224,886, "Radon Projects for Kansas."

Snead, Bruce C., US Environmental Protection Agency, \$34,300 (includes \$600 from Nebraska Association of Realtors), "Radon Projects for Nebraska."

Snead, Bruce C., US Environmental Protection Agency, \$25,610, "Regional Radon Training Center."

MECHANICAL AND NUCLEAR ENGINEERING

Bajorek, Stephen M., National Academy for Nuclear Training, \$14,000, "National Academy for Nuclear Training."

Fenton, Donald L., American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., \$18,004, "ASHRAE Standard 15 User's Manual."

Hosni, Mohammad H., and **Eckels, Steven** (Institute for Environmental Research), Ford Motor Company, \$48,500, "Advanced Climate Control System Development."

Krishnaswami, Prakash, (see **Chapman, Kirby S.**, National Gas Machinery Laboratory).

Krishnaswami, Prakash, (see **Thompson, J. Garth**, Mechanical and Nuclear Engineering).

Krishnaswami, Prakash, (see **Wang, Youqi**, Mechanical and Nuclear Engineering).

Lease, Kevin B., (see **Sherwood, Peter M.**, Chemistry).

McGregor, Douglas S., US Department of Energy, \$25,200, "Development and Fabrication of Improved GaAs Detectors."

Schinstock, Dale E., Kansas Technology Enterprise Corporation, \$75,000, "Electromechanical Systems Laboratory - Infrastructure Improvement, KSU."

Schinstock, Dale E., National Science Foundation, \$198,160, "Electromechanical Systems Lab Infrastructure Improvement, KSU."

Thompson, J. Garth, Krishnaswami, Prakash, and Wang, Youqi, US Department of Energy, \$13,000, "Design of an Improved Arc Length Control System."

Thompson, J. Garth, and Uhlarik, John J. (Psychology), National Aeronautics and Space Administration, \$101,324, "Advanced Information Subsystems for the Next Generation General Aviation Aircraft."

Wang, Youqi, National Aeronautics and Space Administration, \$49,860, "Computational Models for Electrostrictive Graft Elasmometer."

Wang, Youqi, National Aeronautics and Space Administration, \$35,097, "Stiffness and Strength of Polymer Network and Carbon Nanotube Reinforced Polymer Network."

Wang, Youqi, and Krishnaswami, Prakash, Kansas Technology Enterprise Corporation, \$29,564, "Development of Three Dimensional Braiding Processes for Aircraft Structural Components."

Wang, Youqi, (see **Sherwood, Peter M.**, Chemistry).

Wang, Youqi, (see **Thompson, J. Garth**, Mechanical and Nuclear Engineering).

Whaley, Paul M., US Department of Energy, \$13,952, "Energy-Related Laboratory Equipment - Hand Foot Monitor."

Whaley, Paul M., US Department of Energy, \$13,208, "Energy-Related Laboratory Equipment - X-ray System Faxitron."

Whaley, Paul M., US Department of Energy, \$25,000, "University Reactor Sharing."

Xin, Xiao J., Kansas Technology Enterprise Corporation, \$15,168, "Efficient Numerical Method for the Investigation of Composite Materials."

Xin, Xiao J., US Department of Energy, \$63,553, "Efficient Numerical Method for the Investigation of Composite Materials."

Zheng, Zhonquan C., US Environmental Protection Agency, \$30,598, "Development of Nested 3-D Large-Eddy Simulation Modeling of the Mobile Bay Estuary."

NATIONAL GAS MACHINERY LABORATORY

Chapman, Kirby S., Kansas Technology Enterprise Corporation, \$106,000, "Natural Gas Transmission Commercialization Opportunities for Kansas."

Chapman, Kirby S., Pipeline Research Council International, Inc., \$109,125, "Development and Prototyping of Variable Geometry Turbocharger."

Chapman, Kirby S., Krishnaswami, Prakash (Mechanical and Nuclear Engineering), and **Wallentine, Virgil E.** (Computing and Information Sciences), US Department of Energy, \$100,000, "Virtual Pipeline System Testbed to Optimize the U. S. Natural Gas Transmission Pipeline System."

NATIONAL INSTITUTE FOR LAND MANAGEMENT AND TRAINING

Biles, Bertram R., Kansas Army National Guard, \$25,000, "Kansas Army National Guard Web Server Project."

Biles, Bertram R., US Department of Defense, \$118,970, "Integrated Training Area Management FY02 Workshop."

Biles, Bertram R., US Department of Defense, \$50,000, "Kansas Army National Guard Environmental Shop Maintenance Training Video."

Steichen, James M., US Department of Defense, \$157,116, "Active/Interactive (A/I) Range Inventory Support for the U. S. Army Environmental Center."

Steichen, James M., US Department of Defense, \$2,117,685, "Integrated Training Area Management (ITAM) Program Support for TRADOC (ITAM, GIS and LCTA)."

COLLEGE OF HUMAN ECOLOGY

APPAREL, TEXTILES, AND INTERIOR DESIGN

Dickson, Marsha A., North Central Regional Coordinating Group 65, \$1,500, "Socially Responsible Apparel Business."

McCullough, Elizabeth A., Cotton, Inc., \$3,987, "Fabric Hand Characteristics."

McCullough, Elizabeth A., E. I. Dupont De Nemours and Co., \$5,020, "Fabric Hand Characteristics of Medical Nonwovens."

OFFICE OF THE DEAN OF THE COLLEGE OF HUMAN ECOLOGY

Bosch, Kathy, (see **Peters, Paula**, Extension Family and Consumer Sciences).

Chambers, Delores H., Farmland Foods, Inc., \$9,973, "Evaluation of Meat Products."

Moxley, Virginia M., US Department of Education, \$1,088,558 (includes \$50,000 from Iowa State University; \$65,005 from Montana State University; \$51,515 from the University of Nebraska; \$47,632 from North Dakota State University; \$47,965 from Oklahoma State University; \$66,209 from South Dakota State University; and \$48,322 from Texas Tech University), "National Model for Inter-Institutional Postbaccalaureate Distance Education Programs."

HUMAN NUTRITION

Chambers, Delores H., Excel Corporation, \$9,375, "Product Evaluation."

Chambers, Delores H., Hormel Foods Corporation, \$10,400, "Product Evaluation."

Chambers, Delores H., (see **Chambers IV, Edgar**, Human Nutrition).

Chambers IV, Edgar, Abbott Laboratories, \$8,359, "Evaluation of Products."

Chambers IV, Edgar, Multisponsor, \$193,260, "Sensory Analysis Center Support."

Chambers IV, Edgar, US Department of Agriculture, \$3,918, "Elder's Use of Portion-Size Aids."

Chambers IV, Edgar, US Department of Health and Human Services, \$10,000, "Refrigeration Knowledge and Practices of Consumers."

Chambers IV, Edgar, and Chambers, Delores H., Chiquita Brands, Inc., \$49,995, "Quality of Cut Fresh Fruit."

Chambers IV, Edgar, and Chambers, Delores H., Frito Lay, Inc., \$90,814, "Consumer Perception of Products Under Extended Use."

Chambers IV, Edgar, and Chambers, Delores H., Lipton, \$11,950, "Consumer Testing Assistance."

Chambers IV, Edgar, and Chambers, Delores H., Peryam and Kroll Research Corporation, \$3,849, "Evaluation of Product Characteristics."

Chambers IV, Edgar, and Chambers, Delores H., SSE Foods, Inc., \$16,382, "Sensory Analysis Assistance."

Higgins, Mary L., US Department of Agriculture, \$3,947, "Improving Nutritional Outcomes in Rural Homebound Older Adults Who Receive Home-Delivered Meals."

SCHOOL OF FAMILY STUDIES AND HUMAN SERVICES

Altus, Deborah, (see **Norris-Baker, Carolyn**, Dean of Architecture, Planning and Design).

Bailey, Gwen L., (see **Bollman, Stephan R.**, School of Family Studies and Human Services).

Bollman, Stephan R., and **Bailey, Gwen L.**, Kansas Child Care Training Opportunities, Inc, \$46,704, "Flint Hills Child Care Resource and Referral Project."

Bollman, Stephan R., and **Bailey, Gwen L.**, Kansas Child Care Training Opportunities, Inc, \$37,505, "Infant/Toddler Initiative."

Bollman, Stephan R., and **Bailey, Gwen L.**, Kansas Child Care Training Opportunities, Inc, \$109,303, "Kansas Child Care Training Opportunities."

Bollman, Stephan R., and **Bailey, Gwen L.**, US Department of Education, \$19,035, "Special Care Curriculum and Training."

Bollman, Stephan R., and **O'Conner, Nancy T.**, Kansas Department of Social and Rehabilitation Services, \$7,331, "Family Preservation Services."

Bollman, Stephan R., **Fees, Bronwyn S.**, **Nelson, Briana S.**, **O'Conner, Nancy T.**, and **White, Mark B.**, Kansas Department of Social and Rehabilitation Services, \$116,966, "Family Preservation Services Contract."

Bollman, Stephan R., and **Glasscock, Marlene K.**, US Department of Agriculture, \$119,815, "Expanding Access to USDA and Land-Grant University Child Care Information, Programs and Services."

Bollman, Stephan R., and **Glasscock, Marlene K.**, US Department of Agriculture, \$37,037, "National Network for Child Care Internet Web Site and Database Recruitment for Air Force Internships Pilot Project."

Bollman, Stephan R., (see **Griffin, Charles L.**, School of Family Studies and Human Services).

Bradshaw, Michael H., Kansas Health Foundation, \$99,896, "PATH Intergenerational Project."

DeLuccie, Mary L., US Department of Health and Human Services, \$9,040, "Head Start Practica."

DeLuccie, Mary L., US Department of Health and Human Services, \$16,300, "Math and Science Enhancement Project."

DeLuccie, Mary L., USD 383, Manhattan, \$17,567, "Early Childhood Lab."

Fees, Bronwyn S., (see **Bollman, Stephan R.**, School of Family Studies and Human Services).

Garcia, Robert, USD 379, Clay Center, \$6,010, "Speech and Language Services."

Garcia, Robert, (see **Hoag, Linda A.**, School of Family Studies and Human Services).

Glasscock, Marlene K., (see **Bollman, Stephan R.**, School of Family Studies and Human Services).

Glasscock, Marlene K., (see **Meredith, William H.**, School of Family Studies and Human Services).

Grable, John E., Int'l Association of Registered Financial Consultants, Inc., \$21,600, "Journal of Personal Finance."

Griffin, Charles L., and **Bollman, Stephan R.**, US Department of Health and Human Services, \$50,000, "Kansas Farm and Ranch Family Assistance Program."

Griffin, Charles L., and **Bollman, Stephan R.**, US Department of Health and Human Services, \$1,108,452, "SRS Organizational Development Training and Curriculum Development."

Hoag, Linda A., US Department of Health and Human Services, \$86,980, "Communicative Competence and the Use of Prestored Text."

Hoag, Linda A., and **Garcia, Robert**, Multisponsor, \$44,024, "Capper - KSU Clinical Affiliation in Speech Pathology."

Meredith, William H., US Department of Agriculture, \$343,949, "USDA/Army School-Age and Teen Project Task 1."

Meredith, William H., and **Glasscock, Marlene K.**, US Department of Agriculture, \$338,400, "CYFAR Supported Extension Staff Training."

Murray, Ann D., Tobacco Settlement, \$8,000, "Smart Start Local Evaluation Plan."

Nelson, Briana S., (see **Bollman, Stephan R.**, School of Family Studies and Human Services).

O'Conner, Nancy T., (see **Bollman, Stephan R.**, School of Family Studies and Human Services).

Schumm, Walter R., US Department of Health and Human Services, \$96,610, "Alcohol and Drug Treatment Effectiveness Follow-Up Study."

Smit, Ann B., USD 383, Manhattan, \$9,120, "Speech and Language Services."

Walker, Doris K., Kansas Health Foundation, \$1,123, "Health Promotion for Older Kansans."

White, Mark B., (see **Bollman, Stephan R.**, School of Family Studies and Human Services).

COLLEGE OF TECHNOLOGY AND AVIATION

SALINA ARTS, SCIENCE AND BUSINESS

Thompson, Stephen, Saline County, \$15,000, "Recover and Determine Geodetic Coordinates for Section Corners in Saline County."

Thompson, Stephen, (see **Von Bergen, Donald**, Salina Arts, Science and Business).

Von Bergen, Donald, and **Thompson, Stephen**, Kansas Department of Administration, \$38,470, "Maintenance and Operation of GPS Base Station at KSU-Salina."

COLLEGE OF VETERINARY MEDICINE

ANATOMY AND PHYSIOLOGY

Blecha, Frank, US Department of Health and Human Services, \$54,950, "Short-Term Training Students in Health Professional Schools."

Blecha, Frank, and **Ross, Chris R.**, US Department of Agriculture, \$270,000, "Porcine Antimicrobial Peptide."

Erickson, Howard H., Sera, Inc., \$65,261, "Preliminary Treadmill Exercise Study to Determine the Efficacy of Seramune Equine IgG as a Prevention and Treatment for EIPH in Athletic Horses."

Freeman, Lisa C., US Department of Health and Human Services, \$193,000, "LKS and LKUR in Granulosa Cells."

Hunter, Robert P., Kansas Racing and Gaming Commission, \$37,516, "Renal Function and Hepatic Metabolism in Greyhounds."

Hunter, Robert P., **Dodd, Charles C.** (Clinical Sciences), and **Isaza, Ramiro** (Clinical Sciences), Morris Animal Foundation, \$56,360, "Study of the Pharmacokinetics of Topical Doramectin and Moxidectin in Camelids."

Hunter, Robert P., and **Isaza, Ramiro** (Clinical Sciences), Morris Animal Foundation, \$16,191, "Effects and Pharmacokinetics of a Transmucosal Fentanyl Formulation in Apes."

Kenney, Michael J., US Department of Health and Human Services, \$427,400, "Senescence Alters Sympathetic Regulation to Heat Stress."

Kenney, Michael J., US Department of Health and Human Services, \$211,425, "Sympathetic-Immune Interface: Central Sites and Function."

Marcus, Daniel C., US Department of Health and Human Services, \$331,013, "Cochlear and Vestibular Ion Transport."

McDonough, Paul J., (see **Poole, David C.**, Anatomy and Physiology).

Mitchell, Kathy E., US Department of Health and Human Services, \$50,925, "Novel Stem Cell Source for Cancer Therapy."

Mitchell, Kathy E., (see **Tomich, John M.**, Biochemistry).

Musch, Timothy I., and **Poole, David C.**, US Department of Health and Human Services, \$218,250, "Aging, Chronic Disease and Skeletal Muscle Perfusion."

Musch, Timothy I., (see **Chapes, Stephen K.**, Biology).

Poole, David C., US Department of Health and Human Services, \$24,803, "Minority Predoctoral Fellowship - Danielle J. Padilla."

Poole, David C., and **McDonough, Paul J.**, US Department of Health and Human Services, \$38,320, "Muscle Fiber Type, Oxidative Capacity and Oxygen Exchange."

Poole, David C., (see **Musch, Timothy I.**, Anatomy and Physiology).

Ross, Chris R., (see **Blecha, Frank**, Anatomy and Physiology).

Schultz, Bruce D., (see **Tomich, John M.**, Biochemistry).

Wangemann, A. Philine, US Department of Health and Human Services, \$265,190, "Neurogenic Regulation of Cochlear Blood Flow."

CLINICAL SCIENCES

Armbrust, Laura J., (see **Hoskinson, James J.**, Clinical Sciences).

Chenoweth, Peter J., (see **Samper, Juan C.**, Clinical Sciences).

Chun, Ruthanne, Heska Corporation, \$16,852, "Canine Interleukin-2-Staphylococcus Aureus Enterotoxin Immunotherapy."

Cox, Judy H., **Gaughan, Earl M.**, **Lillich, James D.**, and **Renberg, Walter C.**, Morris Animal Foundation, \$7,500, "Effectiveness of Electro-Acupuncture for the Treatment of Heel Pain in the Horse."

Dodd, Charles C., (see **Hunter, Robert P.**, Anatomy and Physiology).

Fingland, Roger B., University of Kansas, \$4,000, "Pharm.D. Clerkship."

Garrett, Laura D., and **Wilkerson, Melinda** (Diagnostic Medicine/Pathobiology), Kansas Racing and Gaming Commission, \$9,631, "Assessment of Platelet Concentrations and Platelet-Bound Antibody in Greyhounds."

Gaughan, Earl M., (see **Cox, Judy H.**, Clinical Sciences).

Grauer, Gregory F., IAMS Company, \$33,373, "Effects of n-3 Fatty Acid Supplementation on the Development of Dirofilarial-Associated Glomerulonephritis in Dogs."

Grauer, Gregory F., Ross University, \$77,456, "Clinical Training for Ross University School of Health Sciences."

Grauer, Gregory F., (see **Moore, Lisa E.**, Clinical Sciences).

Hankins, Kevin G., (see **Samper, Juan C.**, Clinical Sciences).

Hoskinson, James J., and **Armbrust, Laura J.**, Kansas Racing and Gaming Commission, \$4,251, "Determination of Glomerular Filtration Rate and Effective Renal Plasma Flow in Greyhounds."

Isaza, Ramiro, (see **Hunter, Robert P.**, Anatomy and Physiology).

Lillich, James D., Kansas Racing and Gaming Commission, \$2,625, "Use of Two-Dimensional Electrophoreses (proteomics) to Identify Neutral Metalloproteinases in Synovial Fluid from Normal and Diseased Equine Digital Tendon Sheaths."

Lillich, James D., (see **Cox, Judy H.**, Clinical Sciences).

Moore, Lisa E., Hill's Pet Nutrition, Inc., \$11,010, "Dietary Intervention for the Treatment of Chronic Diarrhea in Cats."

Moore, Lisa E., Hill's Pet Nutrition, Inc., \$12,000, "Dietary Intervention for the Treatment of Chronic Diarrhea in Dogs."

Moore, Lisa E., and **Grauer, Gregory F.**, Heska Corporation, \$63,358, "Wellness Screening as an Early Indicator of Disease in Dogs and Cats."

Olsen, Dennis E., Midwest Research Institute, \$15,000, "Evaluation of the Irritation Potential of Orally Administered Potassium Bicarbonate Tablets Using Isolated Intestinal Pouches in Beagle Dogs."

Olsen, Dennis E., Midwest Research Institute, \$5,700, "Second Pilot Study to Verify the Sensitivity of Surgically Created Isolated Intestinal Pouches to Evaluate Mucosal Irritation."

Renberg, Walter C., (see **Cox, Judy H.**, Clinical Sciences).

Roush, James K., Hill's Pet Nutrition, Inc., \$88,500, "Multi-Center Clinical Study of the Effect of an Investigational Food on Clinical Signs of Osteoarthritis in Dogs."

Roush, James K., Nutramax Laboratories, Inc., \$37,222, "Effects of Diacerein on Acute Inflammation in a Canine Sunovitis Model - A Pilot Study."

Samper, Juan C., Kansas Racing and Gaming Commission, \$6,000, "Evaluation of the Acrosomal Status of Stallion Spermatozoa."

Samper, Juan C., **Chenoweth, Peter J.**, and **Hankins, Kevin G.**, Fort Dodge Animal Health, \$30,000, "Predictability of Ovulations at a Fixed Time in Mares with Ovarian."

Sanderson, Michael W., (see **Sargeant, Janice M.**, Food Animal Health and Management Center).

Schermerhorn, Thomas, US Department of Health and Human Services, \$169,824, "Beta Cell Inhibitors Act by Disrupting the SNARE Complex."

Schermerhorn, Thomas, Winn Feline Foundation, \$6,354, "Specific Tissue Expression of Glucokinase, A Major Enzyme in Glucose Metabolism, Has an Important Role in Glucose Homeostasis of Normal Cats."

Schermerhorn, Thomas, and **Wilkerson, Melinda** (Diagnostic Medicine/Pathobiology), Great Plains Diabetes Research, Inc., \$8,425, "Flow Cytometric Analysis of SNARE Proteins and Lipid Rafts in Pancreatic Beta Cells."

OFFICE OF THE DEAN OF THE COLLEGE OF VETERINARY MEDICINE

Robertson, Donald C., US Department of Energy, \$12,209, "Identification of Infectious Disease Syndromes in Agricultural (Food) Animals."

DIAGNOSTIC MEDICINE/PATHOBIOLOGY

Chengappa, M. M., (see **Stewart, George C.**, Diagnostic Medicine/Pathobiology).

DeBey, Brad M., (see **Nagaraja, Tiruvor G.**, Diagnostic Medicine/Pathobiology).

Dryden, Michael W., Bayer Corporation, \$70,604, "Imidacloprid Flea Susceptibility Monitoring Project."

Dryden, Michael W., Merial Corporation, \$73,382, "Efficacy of Frontline® Plus™ (fipronil - methoprene) and Advantage® (imidacloprid) to Control Flea Populations in Naturally Infested Pets and Private Residences."

Dryden, Michael W., Pfizer Inc., \$47,161, "Comparative Efficacy of Selamectin (Revolution™) and fipronil (S)-methoprene (Frontline®Plus) Against the Cat Flea, *Ctenocephalides felis*, and Flea Eggs on Cats."

Fenwick, Bradley W., Kansas Racing and Gaming Commission, \$34,500, "Preventing Malignant Hyperthermia in Racing Greyhounds: Genetic Screening for Calcium Release Channel Mutations in Skeletal Muscle."

Fenwick, Bradley W., Kansas Racing and Gaming Commission, \$45,300, "Role of MHC Genes and Inbreeding on Reproduction and Racing Performance in Racing Greyhounds: Breeding for Optimal Histocompatibility Genotypes (A Molecular Approach for Breed Improvement)."

Fenwick, Bradley W., US Department of Health and Human Services, \$48,453, "Development of a Canine Model of E. coli-Induced Hemorrhagic Colitis and Hemolytic Uremic Syndrome: Phase II."

Fenwick, Bradley W., US Department of Health and Human Services, \$66,825, "Thrombin and vWF in Shiga-Toxin-Associated HUS."

Ganta, Roman Reddy, Morris Animal Foundation, \$35,489, "Improved Multiplex Molecular Test for Sensitive Detection of Canine Ehrlichiosis Agents."

Ganta, Roman Reddy, US Department of Health and Human Services, \$25,000, "West Nile Virus Surveillance: Laboratory Analysis."

Kapil, Sanjay, Pig Improvement Company, UK Ltd., \$24,008, "Correlation of CD151 Levels in Peripheral Blood Monocyte Cells with Porcine Reproductive and Respiratory Syndrome Virus Production."

Kapil, Sanjay, Renessen LLC, \$86,276, "Wheat Bran Lectin: A Safe, Food-Grade Mucosal Adjuvant."

Kapil, Sanjay, US Department of Agriculture, \$27,500, "Pseudorabies Laboratory Testing."

Nagaraja, Tiruvoor G., and **DeBey, Brad M.**, Alpharma Inc., \$27,427, "Effect of Lasalocid on Experimentally Induced Abomasal Bloat and Abomasitis in Neonatal Calves."

Nagaraja, Tiruvoor G., (see **Stewart, George C.**, Diagnostic Medicine/Pathobiology).

Nagaraja, Tiruvoor G., (see **Sargeant, Janice M.**, Food Animal Health and Management Center).

Rowland, Raymond R. R., US Department of Agriculture, \$14,003, "Virological, Immunological, and Molecular Components of Reproductive PRRS."

Stewart, George C., US Department of Health and Human Services, \$123,024, "Control of Enterotoxin Gene Expression *S. aureus*."

Stewart, George C., **Chengappa, M. M.**, and **Nagaraja, Tiruvoor G.**, US Department of Agriculture, \$200,000, "Role of *Fusobacterium Necrophorum* Leukotoxin in Virulence."

Stewart, George C., (see **Tang, Xiaoyan**, Plant Pathology).

Wilkerson, Melinda, Pfizer Inc., \$103,946, "Defining a Canine Model of Flea Allergic Dermatitis."

Wilkerson, Melinda, (see **Garrett, Laura D.**, Clinical Sciences).

Wilkerson, Melinda, (see **Schermerhorn, Thomas**, Clinical Sciences).

Wyatt, Carol R., US Department of Health and Human Services, \$79,324, "Mucosal Immune Responses during Cryptosporidiosis."

FOOD ANIMAL HEALTH AND MANAGEMENT CENTER

Dritz, Steven S., National Pork Board, \$24,754, "Corn Particle Size and Pelleting Influence on Fecal Shedding and Enteric Colonization of *Salmonella Typhimurium*."

Dritz, Steven S., (see **Tokach, Michael D.**, Animal Sciences and Industry).

Oberst, Richard D., (see **Sargeant, Janice M.**, Food Animal Health and Management Center).

Sargeant, Janice M., **Nagaraja, Tiruvoor G.** (Diagnostic Medicine/Pathobiology), **Oberst, Richard D.**, and **Sanderson, Michael W.** (Clinical Sciences), US Department of Agriculture, \$194,555, "Ecology of E-coli O157:H7 in Beef Cow-Calf Operations from Ranch through Feedlot."

Spire, Mark F., and **Drouillard, James S.** (Animal Sciences and Industry), Pharmacia and Upjohn Company, \$7,275, "Injection Site Study Under Field Conditions to Support Subcutaneous Administration of Ceftiofur Sodium (Naxcel) in Bovine."

Spire, Mark F., (see **Dikeman, Michael E.**, Animal Sciences and Industry).

KANSAS COOPERATIVE EXTENSION SERVICE

AGRICULTURAL ECONOMICS

Barnaby, Glenn A., US Department of Agriculture, \$9,000, "Risk Management Education Proposal for Kansas."

Barton, David G., and **Boland, Michael A.**, US Department of Agriculture, \$220,000, "Kansas Cooperative Development Center Education and Assistance Program."

Boland, Michael A., US Department of Agriculture, \$19,215, "Rural Community-Based Case Test to Evaluate the Efficacy of the USDA Quality System Certification Program (QSCP) for Small Livestock and Meat Marketing Programs."

Boland, Michael A., (see **Barton, David G.**, Extension Agricultural Economics).

Coltrain, David E., (see **Carey, Edward E.**, Extension Horticulture, Forestry and Recreation Resources).

Dhuyvetter, Kevin C., (see **Bernardo, Daniel J.**, Agricultural Economics).

Jones, Rodney D., (see **Ohlenbusch, Paul D.**, Extension Agronomy).

Leatherman, John C., US Environmental Protection Agency, \$98,579, "Kansas Urban Water Quality Restoration and Protection Initiative."

AGRICULTURE AND NATURAL RESOURCES

Buchholz, Daryl D., Kansas Farm Service Agency, \$9,641, "Memorandum of Understanding between Kansas Agricultural Mediation Service and Kansas Farm Service Agency."

Buchholz, Daryl D., US Department of Agriculture, \$81, "Memorandum of Understanding between Kansas Agricultural Mediation Service and Kansas Natural Resources Conservation Service."

Buchholz, Daryl D., US Department of Agriculture, \$153,177, "North Central Professional Development Program Coordinator."

Buchholz, Daryl D., and **Beckman, Jana J.** (Kansas Center for Agriculture Resources and the Environment), US Department of Agriculture, \$19,000, "North Central Region Sustainable Agriculture Research and Education Professional Development Program."

Buchholz, Daryl D., and **Johnson, Marc A.** (Dean of Agriculture and Director of AES), US Department of Agriculture, \$333,517, "Kansas Agricultural Mediation Service."

Buchholz, Daryl D., **Murphy, James P.** (Extension Biological and Agricultural Engineering), and **Wootton, Richard D.** (Director of Cooperative Extension), US Department of Agriculture, \$20,000, "Farm Safety Program Formula Funds."

Buchholz, Daryl D., (see **Higgins, Randall A.**, Extension Entomology).

AGRONOMY

Devlin, Daniel L., (see **Pierzynski, Gary M.**, Agronomy).

Eberle, William M., Kansas Department of Health and Environment, \$17,920, "Research/Demonstration/Education Compost Facility and Compost Operator and Technical Assistance."

Fjell, Dale L., Kansas Grain Sorghum Commission, \$4,000, "Grain Sorghum Production in Kansas: Extension and Applied Research."

Fjell, Dale L., Monsanto Company, \$17,000, "Variety Testing, Farmer Education and Management of Identity Preserved Farming Systems."

Fjell, Dale L., (see **Clark, Gary A.**, Extension Biological and Agricultural Engineering).

Fjell, Dale L., (see **Martin, Victor L.**, Agronomy).

Leikam, Dale F., **Lamond, Ray E.**, and **Schlegel, Alan J.** (Southwest Research Extension Center), Kansas Corn Commission, \$10,000, "Revising KSU Corn Phosphorus and Potassium Nutrient Recommendations."

Leikam, Dale F., **Lamond, Ray E.**, and **Schlegel, Alan J.** (Southwest Research Extension Center), Kansas Grain Sorghum Commission, \$15,000, "Revising KSU Sorghum Phosphorus and Potassium Nutrient Recommendations."

Ohlenbusch, Paul D., and **Jones, Rodney D.** (Extension Agricultural Economics), US Environmental Protection Agency, \$122,218, "Developing a Grazing Land Water Quality Education Program."

Peterson, Dallas E., (see **Dille, Johanna A.**, Agronomy).

Shroyer, James P., **Duncan, Stewart R.** (South Central Area Office), **Staggenborg, Scott A.** (Northeast Area Office), and **Thompson, Curtis R.** (Southwest Area Office), Finnup Foundation, \$4,000, "Wheat Research/Extension Assistant."

ANIMAL SCIENCES AND INDUSTRY

Aramouni, Fadi M., and **Herald, Thomas L.**, Kansas Department of Commerce and Housing, \$70,000, "Food and Feed Value Added Program."

Boyle, Elizabeth, Kansas Department of Commerce and Housing, \$12,000, "KSU Meat Extension and Pilot Plant."

Goodband, Robert D., (see **Nelssen, Jim L.**, Animal Sciences and Industry).

Lee, Chares D., Kansas Department of Administration, \$3,500, "Sericea Lespedeza Seed Viability after Passage through Growing Steers and Northern Bobwhite Quail."

Lee, Charles D., Kansas Department of Wildlife and Parks, \$27,771, "Extension Education Position."

Lee, Charles D., US Department of Agriculture, \$1,500, "North Central Regional Aquaculture Center Extension Project."

Penner, Karen P., and **Fox, John A.** (Agricultural Economics), US Department of Agriculture, \$115,728, "Educational Programs on Food Safety and Irradiation."

Penner, Karen P., and **Flores, Sandra A.** (Communications), US Department of Agriculture, \$29,262, "HACCP Training Materials for Schools."

Penner, Karen P., and **Flores, Sandra A.** (Communications), US Department of Agriculture, \$7,163, "USDA Recipe Analysis."

Tokach, Michael D., (see **Nelssen, Jim L.**, Animal Sciences and Industry).

APPAREL, TEXTILES, AND INTERIOR DESIGN

Bode, Marilyn, **Bradshaw, Michael H.** (Extension School of Family Studies and Human Services), and **Proctor, Sandra B.** (Nutrition Program), US Department of Agriculture, \$2,300, "Healthy Homes-Kansas."

BIOLOGICAL AND AGRICULTURAL ENGINEERING

Alam, Mahbub U., **Dumler, Troy** (Southwest Area Office), **Lamm, Freddie R.** (Northwest Research Extension Center), **Rogers, Danny H.**, **Stockton, Roger D.** (Northwest Area Office), and **Thompson, Carlyle A.** (Agricultural Research Center-Hays), Kansas Corn Commission, \$21,800, "Irrigation Scheduling Demonstration of Efficient Water Use by Corn in Western Kansas."

Alam, Mahbub U., (see **Clark, Gary A.**, Extension Biological and Agricultural Engineering).

Clark, Gary A., **Alam, Mahbub U.**, **Fjell, Dale L.** (Extension Agronomy), and **Rogers, Danny H.**, Kansas Corn Commission, \$30,000, "Mobile Irrigation Lab - Improved Irrigation Efficiency for Corn Production."

Kahl, Daniel W., (see **Powell, G. Morgan**, Biological and Agricultural Engineering).

Murphy, James P., (see **Buchholz, Daryl D.**, Agriculture and Natural Resources).

Powell, G. Morgan, **Buchholz, Daryl D.** (Agriculture and Natural Resources), and **Devlin, Daniel L.** (Agronomy), US Environmental Protection Agency, \$25,474, "Kansas Environmental Leadership Program (KELP)."

Powell, G. Morgan, **Hargrove, William L.** (Kansas Water Resource Research Institute), and **Kahl, Daniel W.**, US Environmental Protection Agency, \$24,225, "Water Quality Workshops: Preparing Citizens to Address Total Maximum Daily Loads (TMDLs)."

Powell, G. Morgan, and **Kahl, Daniel W.**, US Environmental Protection Agency, \$82,126, "Kansas Environmental Leadership Program."

Powell, G. Morgan, (see **Hargrove, William L.**, Kansas Center for Agriculture Resources and the Environment).

Rogers, Danny H., (see **Alam, Mahbub U.**, Extension Biological and Agricultural Engineering).

Rogers, Danny H., (see **Clark, Gary A.**, Extension Biological and Agricultural Engineering).

Slcombe, John W., US Department of Agriculture, \$203,687 (includes \$55,934 from SKIL), "Kansas AgriAbility Project."

Taylor, Randal K., (see **Schlegel, Alan J.**, Southwest Research Extension Center).

Willingham, Judith M., (see **Hargrove, William L.**, Kansas Center for Agriculture Resources and the Environment).

Wolf, Robert E., (see **Wilde, Gerald E.**, Entomology).

COMMUNICATIONS

Baldwin, Will G., (see **Higgins, Randall A.**, Extension Entomology).

Camoriano, Joseph, (see **Melgares, Patrick J.**, Extension Communications).

Knapp, Mary C., Kansas Water Office, \$3,480, "Technical Assistance to Water Users: ET/Weather Station Operation and Maintenance."

Knapp, Mary C., (see **Hartman, Amy L.**, Communications).

Melgares, Patrick J., and **Camoriano, Joseph**, Kansas Wheat Commission, \$13,400, "Wheat Commission/Biotechnology Communication."

Wootton, Richard D., US Department of Agriculture, \$1,490, "Penalty Mail Extension Mailing."

DIRECTOR OF COOPERATIVE EXTENSION

Buchholz, Daryl D., (see **Powell, G. Morgan**, Extension Biological and Agricultural Engineering).

Lindquist, Jack W., Kansas Agriculture and Rural Leadership, \$59,846, "Kansas Agriculture and Rural Leadership, Inc."

Wootton, Richard D., (see **Buchholz, Daryl D.**, Agriculture and Natural Resources).

ENTOMOLOGY

Cress, Donald C., US Department of Agriculture, \$42,419, "Pesticide Applicator Training Program."

Higgins, Randall A., **Baldwin, Will G.** (Extension Communications), **Buchholz, Daryl D.** (Agriculture and Natural Resources), **Jardine, Douglas J.** (Extension Plant Pathology), **Marr, Charles W.** (Horticulture, Forestry and Recreation Resources), **Peterson, Dallas E.** (Agronomy), and **Sloderbeck, Phillip E.** (Southwest Area Office), US Department of Agriculture, \$63,350, "Enhancing Information Exchange through a User-Friendly Diagnostic Image Library."

EXTENSION ENGINEERING

Harner III, Joseph P., (see **Hargrove, William L.**, Extension Kansas Water Resource Research Institute).

Harner III, Joseph P., (see **Koelliker, James K.**, Extension Engineering).

Harner III, Joseph P., (see **Murphy, James P.**, Extension Engineering).

Hayter, Richard B., (see **Erickson, Larry E.**, Center for Hazardous Substance Research).

Koelliker, James K., and **Harner III, Joseph P.** (Biological and Agricultural Engineering), State of Nebraska, \$7,000, "Cooperative Extension Program in Crop Drying and Post-Harvest Handling."

Murphy, James P., and **Harner III, Joseph P.** (Biological and Agricultural Engineering), US Environmental Protection Agency, \$174,724, "Waste Management Water Quality Protection Learning Center - Part 2."

Rogers, Danny H., (see **Clark, Gary A.**, Biological and Agricultural Engineering).

EXTENSION FAMILY AND CONSUMER SCIENCES

Peters, Paula, Bosch, Kathy (Dean of Human Ecology), **Fitzgerald, Karen D.** (Nutrition Program), and **Hudson, Karen S.** (Dean of Human Ecology), US Department of Agriculture, \$2,887,449 (includes \$638,668 from various Kansas counties), "Kansas Food Stamps Nutrition Education Plan."

EXTENSION OFFICE OF COMMUNITY HEALTH

Dzewaltowski, David A., Kansas Department of Health and Environment, \$100,613, "Agreement between the Kansas Department of Health and Environment and Kansas State University, Cooperative Extension Service."

Dzewaltowski, David A., Kansas Department of Health and Environment, \$24,309, "Kansas LEAN School Health Project."

Dzewaltowski, David A., Robert Wood Johnson Foundation, \$20,000, "Evaluating and Enhancing the REACH and Dissemination of Health Promotion Interventions: The Behavior Change Consortium."

Estabrooks, Paul A., (see **Gyurcsik, Nancy C.**, Extension Office of Community Health).

Gyurcsik, Nancy C., and **Estabrooks, Paul A.**, Kansas Department of Health and Environment, \$10,069, "Arthritis Foundation - Kansas Chapter Program Efficacy Evaluation Project."

Johannes, Elaine M., First Judicial District, \$3,000, "Cooperative Agreement between Cooperative Extension Service and Atchison and Leavenworth Counties to Evaluate the Out of School 4-H Youth Program."

Johannes, Elaine M., Ogden Youth Center, \$500, "Cooperative Agreement between the Ogden Youth Center and Cooperative Extension Service, Kansas State University."

Johannes, Elaine M., US Department of Agriculture, \$250,000, "Opportunities for Prevention Education and Networking in Kansas (OPEN-K)."

Ponte, Christine M., Kansas Department of Health and Environment, \$81,725, "Cooperative Agreement between Kansas Department of Health and Environment and Cooperative Extension Service, Kansas State University."

Ponte, Christine M., US Department of Agriculture, \$7,000, "Cooperative Agreement between Kansas State Board of Education and Kansas State University."

Terry, Roger V., US Department of Agriculture, \$11,100, "CYFERNet Technology."

Terry, Roger V., US Department of Agriculture, \$18,976, "Healthy Places, Healthy Communities."

HORTICULTURE, FORESTRY AND RECREATION RESOURCES

Carey, Edward E., **Coltrain, David E.** (Extension Agricultural Economics), **Janke, Rhonda R.**, **Rajashekar, Channa B.** (Horticulture, Forestry and Recreation Resources), and **Williams, Kimberly A.** (Horticulture, Forestry and Recreation Resources), US Department of Agriculture, \$986,219 (includes \$56,250 from Kansas Rural Center, and \$129,969 from the University of Nebraska), "High Tunnels for the Central Great Plains: Profitable, Season-Extending, Horticultural Production Systems."

Janke, Rhonda R., (see **Carey, Edward E.**, Extension Horticulture, Forestry and Recreation Resources).

HUMAN NUTRITION

Fitzgerald, Karen D., (see **Peters, Paula**, Extension Family and Consumer Sciences).

Hudson, Karen S., (see **Peters, Paula**, Extension Family and Consumer Sciences).

Knous, Barbara L., US Department of Agriculture, \$120,000, "Stage-Based Intervention to Increase Fruit and Vegetable Intakes of Young Adults."

Proctor, Sandra B., (see **Bode, Marilyn**, Extension Apparel, Textiles, and Interior Design).

KANSAS CENTER FOR AGRICULTURE RESOURCES AND THE ENVIRONMENT

Hargrove, William L., US Environmental Protection Agency, \$44,605 (includes \$9,185 from the Sedgwick County Extension Council), "Earth Awareness Researchers for Tomorrow's Habitat (EARTH)."

Hargrove, William L., US Environmental Protection Agency, \$97,285 (includes \$33,285 from the Sedgwick County Extension Council), "Nutrient Placement and Movement in No-Till Cropping Systems for Protecting Groundwater."

Hargrove, William L., US Environmental Protection Agency, \$53,300 (includes \$17,300 from the Sedgwick County Extension Council), "Water Quality Protection from Nitrogen Using Subsurface Drip Irrigation."

KANSAS FOREST SERVICE

Aslin, Raymond G., US Department of Agriculture, \$26,000 (includes \$5,000 from Various Local and Rural Fire Departments), "Consolidated Grants Program 2001."

Aslin, Raymond G., US Department of Agriculture, \$20,000, "Forest Health Management - Forest Health Monitoring."

Aslin, Raymond G., US Department of Agriculture, \$1,382, "Forestry Incentives Program FY2001."

Aslin, Raymond G., US Department of Agriculture, \$68,883, "Kansas Forest Inventory."

Aslin, Raymond G., US Department of Agriculture, \$10,000, "Resource Conservation and Development 2002."

Aslin, Raymond G., US Department of the Interior, \$37,098 (includes \$3,709 from Rural Fire Departments), "Assistance to Rural Firefighters."

KANSAS WATER RESOURCE RESEARCH INSTITUTE

Hargrove, William L., **Harner III, Joseph P.** (Biological and Agricultural Engineering), and **Krainbill, Milton J.** (Northeast Area Office), US Environmental Protection Agency, \$2,000, "Nemaha County Composting Demonstration."

NORTHEAST AREA OFFICE

Krainbill, Milton J., (see **Hargrove, William L.**, Extension Kansas Water Resource Research Institute).

Lubben, Bradley D., Farm Foundation, \$9,500, "Agricultural, Food, and Public Policy Preference Survey."

Staggenborg, Scott A., (see **Gordon, Walter B.**, Agronomy).

Staggenborg, Scott A., (see **Shroyer, James P.**, Agronomy).

NORTHWEST AREA OFFICE

O'Brien, Daniel M., (see **Lamm, Freddie R.**, Northwest Research Extension Center).

O'Brien, Daniel M., (see **Stahlman, Phillip W.**, Agricultural Research Center-Hays).

O'Brien, Daniel M., (see **Stockton, Roger D.**, Northwest Area Office).

Olson, Brian, (see **Stockton, Roger D.**, Northwest Area Office).

Stockton, Roger D., (see **Alam, Mahbub U.**, Extension Biological and Agricultural Engineering).

Stockton, Roger D., **O'Brien, Daniel M.**, and **Olson, Brian**, Kansas Wheat Commission, \$24,710, "No-Till Wheat Production in County Variety Trials."

PLANT PATHOLOGY

Jardine, Douglas J., (see **Higgins, Randall A.**, Extension Entomology).

SCHOOL OF FAMILY STUDIES AND HUMAN SERVICES

Bradshaw, Michael H., US Department of Agriculture, \$3,000, "Healthy Indoor Air for Kansas Homes."

Bradshaw, Michael H., (see **Bode, Marilyn**, Extension Apparel, Textiles, and Interior Design).

SOUTH CENTRAL AREA OFFICE

Duncan, Stewart R., (see **Gordon, Walter B.**, Agronomy).

Duncan, Stewart R., (see **Shroyer, James P.**, Agronomy).

SOUTHEAST AREA OFFICE

Fogleman, Sarah L., US Department of Agriculture, \$2,000, "Agricultural Risk Management for Women Managers."

Fogleman, Sarah L., (see **Kilgore, Gary L.**, Southeast Area Office).

Kilgore, Gary L., and **Fogleman, Sarah L.**, Kansas Corn Commission, \$7,900, "Short Season Corn Education Program in Southeast Kansas."

Kilgore, Gary L., and **Fogleman, Sarah L.**, Kansas Soybean Commission, \$11,180, "Soybean Extension Educational Program in Southeast Kansas."

Kilgore, Gary L., (see **Gordon, Walter B.**, Agronomy).

SOUTHWEST AREA OFFICE

Alam, Mahbub U., (see **Willson, Thomas C.**, Southwest Research Extension Center).

Dumler, Troy, (see **Alam, Mahbub U.**, Extension Biological and Agricultural Engineering).

Dumler, Troy, (see **Schlegel, Alan J.**, Southwest Research Extension Center).

Dumler, Troy, (see **Willson, Thomas C.**, Southwest Research Extension Center).

Sloderbeck, Phillip E., (see **Higgins, Randall A.**, Extension Entomology).

Sloderbeck, Phillip E., (see **Wilde, Gerald E.**, Entomology).

Thompson, Curtis R., Multisponsor, \$41,500, "Chemical Evaluation."

Thompson, Curtis R., (see **Schlegel, Alan J.**, Southwest Research Extension Center).

Thompson, Curtis R., (see **Shroyer, James P.**, Agronomy).

OFFICE OF THE PRESIDENT

AUDITORIUM PERFORMANCES

Martin, Richard P., National Foundation on the Arts and the Humanities, \$5,000, "Community Connections - St. Petersburg Philharmonic Orchestra."

Martin, Richard P., National Foundation on the Arts and the Humanities, \$21,825 (includes \$13,250 from Friends of McCain), "McCain Performance Series."

BEACH ART MUSEUM

Render, Lorne E., Institute of Museum and Library Services, \$3,640, "Beach Museum of Art Conservation Assessment."

Render, Lorne E., National Foundation on the Arts and the Humanities, \$9,095, "Beach Museum of Art Operation Support, FY2002."

VICE PRESIDENT FOR ADMINISTRATION AND FINANCE

KSU POLICE DEPARTMENT

Grice, Ronnie D., and **Johnson, David W.**, US Department of Justice, \$9,000, "Innovative Computers."

Johnson, David W., (see **Grice, Ronnie D.**, KSU Police Department).

VICE PRESIDENT FOR INSTITUTIONAL ADVANCEMENT

EDUCATIONAL AND PERSONAL DEVELOPMENT

Arck, William, City of Manhattan, Kansas, \$17,500, "Youth Oriented Alcohol Abuse Prevention Program."

Greene, Kathleen V., US Department of Education, \$231,897, "Ronald McNair Academic Achievement Program."

Greene, Kathleen V., US Department of Education, \$38,460, "Student Support Services." (2 awards)

Lynch, Judith A., and **Lynch, Michael L.**, US Department of Agriculture, \$9,152, "Beyond the Boundaries: A Summer Enrichment Academy."

Lynch, Michael L., (see **Lynch, Judith A.**, Educational and Personal Development).

McGowan, Reginland, US Department of Agriculture, \$18,657, "Kansas State University Upward Bound Math and Science Program Summer Food Service Program."

McGowan, Reginland, US Department of Agriculture, \$24,295, "Kansas State University Upward Bound Program Summer Food Service Program."

McGowan, Reginland, US Department of Education, \$196,846, "Kansas State University/Gear Up."

McGowan, Reginland, US Department of Education, \$214,872, "Kansas State University Gear Up Program #2."

McGowan, Reginland, US Department of Education, \$243,425, "Kansas State University Upward Bound Math and Science Program."

McGowan, Reginland, US Department of Education, \$3,803, "Upward Bound Program."

OFFICE OF DIVERSITY AND DUAL CAREER DEVELOPMENT

Jones, Carla E., US Department of Health and Human Services, \$6,500, "Health Careers Pathways Satellite Program."

UNIVERSITY COUNSELING SERVICES

Arck, William, Kansas Health Foundation, \$5,500, "Evaluation of the Alcohol Abuse Prevention on College Campuses."

OFFICE OF THE PROVOST

CENTER FOR THE ADVANCEMENT OF TEACHING AND LEARNING

Clegg, Victoria L., (see **Dyer, Ruth A.**, Office of the Provost).

OFFICE OF INTERNATIONAL PROGRAMS

Michie, Barry H., US Department of State, \$18,790, "2001 Edmund S. Muskie/Freedom Support Act Graduate Fellowship - Public Administration."

Michie, Barry H., US Department of State, \$55,824, "Freedom Support Act Undergraduate Program."

Richter, William L., Peace Corps, \$1,400, "Peace Corps Recruitment."

KANSAS CENTER FOR RURAL INITIATIVES

Gould, Carol A., Corporation for National Service, \$416,107 (includes \$116,107 from Western Kansas Community Service-Learning Consortium), "Kansas Service-Learning Consortium."

Gould, Carol A., Corporation for National Service, \$129, "New Linkages for Service Learning Through the Kansas State University Community Service Program."

Gould, Carol A., US Department of Commerce, \$50,000, "Kansas Center for Community Economic Development."

Gould, Carol A., and **Wood, Rebecca J.**, Corporation for National Service, \$4,000, "Martin Luther King, Jr., Day of Service."

Wood, Rebecca J., (see **Gould, Carol A.**, Kansas Center for Rural Initiatives).

LIBRARY

Adams, Roger C., **Farmer, Diana M.**, and **Turtle, Elizabeth**, US Department of Agriculture and W. K. Kellogg Foundation, \$20,000, "Listening to the Prairie."

Farmer, Diana M., (see **Adams, Roger C.**, Library).

Liestman, Daniel, Kansas Library Network, \$7,100, "Anthropology."

Turtle, Elizabeth, Institute of Museum and Library Services, \$2,400, "Virtual Reference for Remote Users (Pilot Project)."

Turtle, Elizabeth, (see **Adams, Roger C.**, Library).

Watts, Tim J., Kansas Library Network, \$1,000, "Titles on the National Film Registry."

OFFICE OF THE PROVOST

Dyer, Ruth A., and **Clegg, Victoria L.** (Center for the Advancement of Teaching and Learning), American Association for Higher Education, \$5,000, "Encouraging Multiple Forms of Scholarly Excellence: Reflecting on Best Practice."

PLANNING AND ANALYSIS

Downey, Ronald G., US Department of Transportation, \$110,000, "Project 1: Driver Traits and Performance Characteristics."

VICE PROVOST FOR ACADEMIC SERVICES AND TECHNOLOGY

REGENTS' EDUCATIONAL COMMUNICATIONS CENTER

Chastain, Melvin L., US Department of Education, \$25,000, "Plains Academy Co-Op."

Newhouse, Barbara S., (see **Havlicek, Barbara J.**, Dean of Education).

REGENTS' TELENET

Allard, John W., US Department of Agriculture, \$1,803, "Reach Across Kansas."

**VICE PROVOST FOR RESEARCH AND
DEAN OF THE GRADUATE SCHOOL**

**OFFICE OF THE VICE PROVOST
FOR RESEARCH**

Guikema, James A., US Department of Defense, \$514,423,
"Neutralization of Chemical and Biological Warfare Agents
Using Nanoscale Metal Oxides in a Dry Powder Form."

BIOTECHNOLOGY CORE LABORATORY

Tomich, John M., Multisponsor, \$61,713, "Biotechnology
Laboratory Support."

ELECTRONICS DESIGN LABORATORY

Sobering, Timothy J., US Department of Energy, \$70,000,
"ICCD Detector Readout Development."

Sobering, Timothy J., Multisponsor, \$78,307, "Electronics
Design Laboratory."

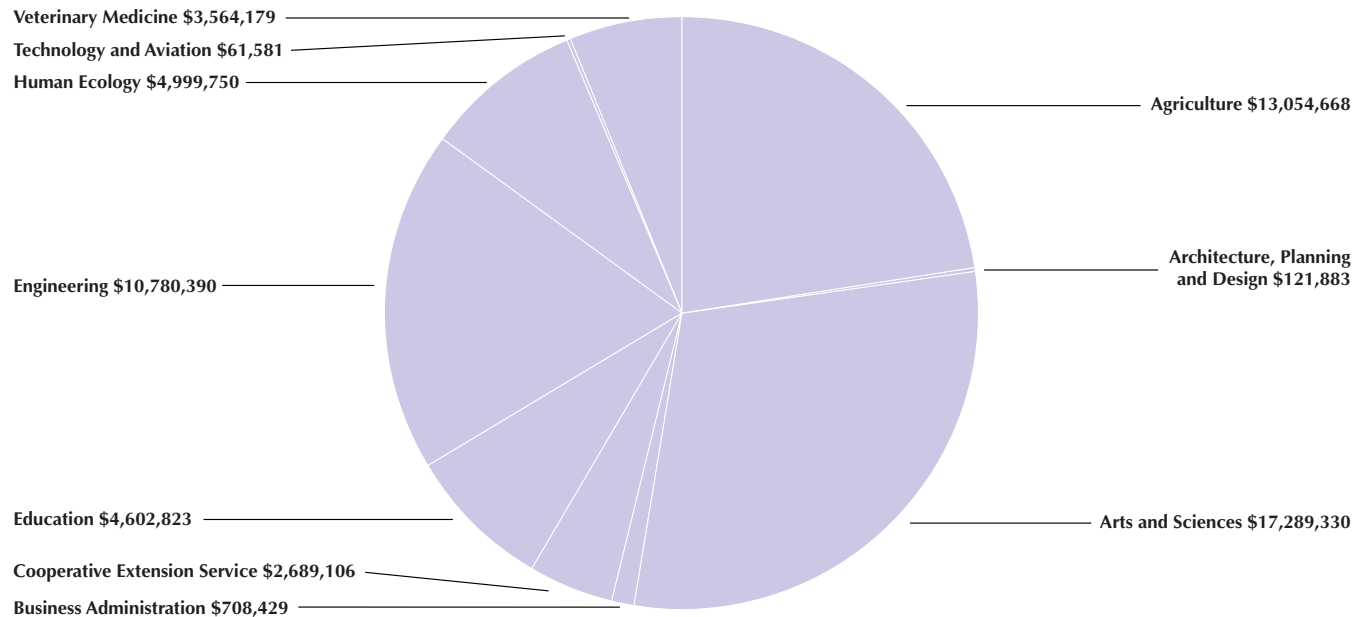
**VICE PROVOST FOR RESEARCH AND DEAN
OF GRADUATE SCHOOL**

Trewyn, R. W., Kansas Board of Regents, \$16,000, "Kansas
Minority Graduate Fellowship Awards."

SECTION 2: EXPENDITURES

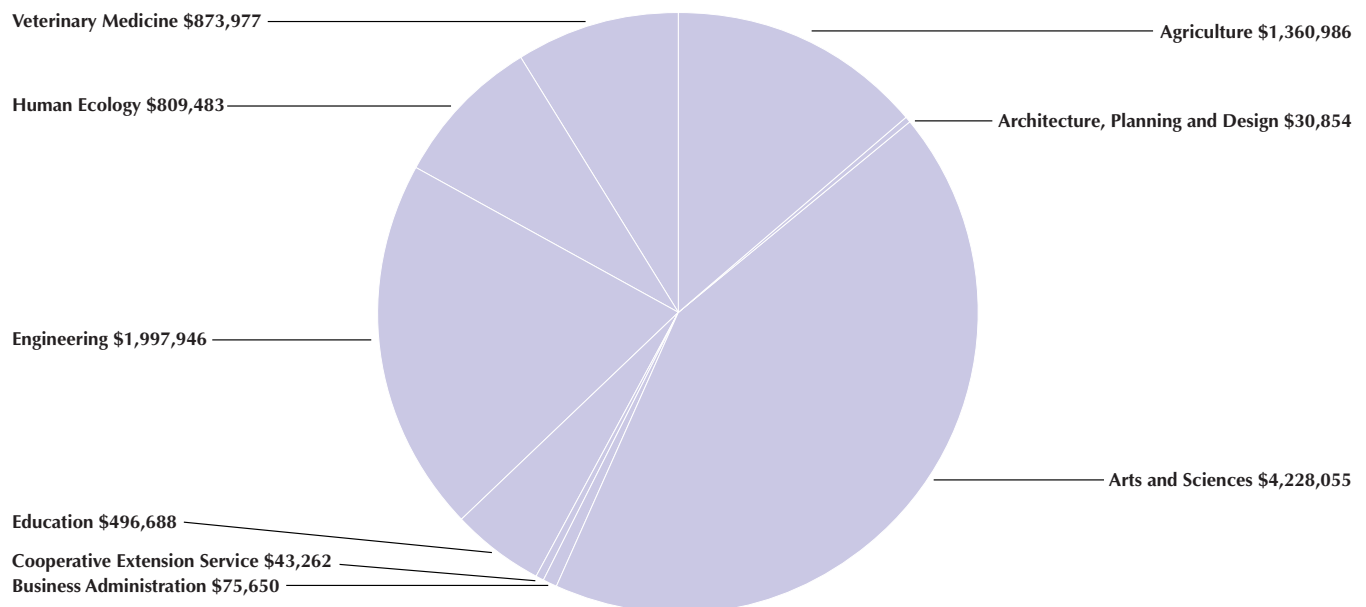
DIRECT COST EXPENDITURES BY COLLEGE AND EXTENSION*

Fiscal Year 2002



FACILITIES AND ADMINISTRATIVE COST RECOVERY BY COLLEGE AND EXTENSION*

Fiscal Year 2002



*Note: Data provided by the KSU Controller's Office, Sponsored Projects Accounting

EXPENDITURES FOR SPONSORED EXTRAMURAL FUNDING BY COLLEGE AND EXTENSION DEPARTMENT*

Fiscal Year 2002

	DIRECT COSTS	FACILITIES AND ADMINISTRATIVE COSTS	TOTAL
COLLEGE OF AGRICULTURE			
Dean of Agriculture and Director of AES	\$100,807.86	\$0.00	\$100,807.86
Agricultural Economics	\$822,315.49	\$110,290.90	\$932,606.39
Agronomy	\$2,458,997.36	\$172,907.23	\$2,631,904.59
Animal Sciences and Industry	\$1,544,480.44	\$69,110.73	\$1,613,591.17
Communications	\$105,927.18	\$2,198.46	\$108,125.64
Entomology	\$1,105,423.55	\$133,307.79	\$1,238,731.34
Grain Science and Technology	\$2,009,844.11	\$190,006.98	\$2,199,851.09
Horticulture, Forestry and Recreation Resources	\$377,595.88	\$19,074.23	\$396,670.11
International Agricultural Programs	\$38,513.68	\$0.00	\$38,513.68
Plant Pathology	\$2,903,485.27	\$536,060.27	\$3,439,545.54
Food and Feed Grains Institute	\$55,108.80	\$17,727.61	\$72,836.41
Kansas Center for Ag. Resource & Env	\$772,412.80	\$57,752.20	\$830,165.00
Agricultural Experiment Station	\$131,292.63	\$46,586.08	\$177,878.71
Northwest Research Extension Center	\$97,454.68	\$0.00	\$97,454.68
Agricultural Research Center-Hays	\$343,098.70	\$4,827.86	\$347,926.56
Southwest Research Extension Center	\$150,248.23	\$0.00	\$150,248.23
Southeast Agricultural Research Center	\$37,661.51	\$1,136.01	\$38,797.52
Total-College of Agriculture	\$13,054,668.17	\$1,360,986.35	\$14,415,654.52
COLLEGE OF ARCHITECTURE, PLANNING, AND DESIGN			
Dean of Architecture, Planning and Design	\$83,012.90	\$30,630.63	\$113,643.53
Architecture	\$2,715.86	\$0.00	\$2,715.86
Interior Architecture	\$1,966.41	\$9.52	\$1,975.93
Landscape Architecture/Regional and Community Planning	\$34,187.96	\$214.76	\$34,402.72
Total-College of Architecture, Planning and Design	\$121,883.13	\$30,854.91	\$152,738.04
COLLEGE OF ARTS AND SCIENCES			
Dean of Arts and Sciences	\$382,186.87	\$30,581.34	\$412,768.21
Biochemistry	\$1,690,668.73	\$512,177.86	\$2,202,846.59
Biology	\$5,620,313.09	\$1,191,215.96	\$6,811,529.05
Chemistry	\$1,997,266.86	\$613,188.10	\$2,610,454.96
Economics	\$169,656.56	\$1,952.22	\$171,608.78
Geography	\$296,263.86	\$37,983.94	\$334,247.80
Geology	\$86,730.41	\$25,992.29	\$112,722.70
History	\$21,532.53	\$0.00	\$21,532.53
James R. Macdonald Laboratory	\$1,710,847.66	\$670,457.52	\$2,381,305.18
School of Journalism and Mass Communication	\$246,492.91	\$0.00	\$246,492.91
Mathematics	\$89,133.79	\$37,860.54	\$126,994.33
Kinesiology	\$570,938.00	\$79,067.84	\$650,005.84
Physics	\$2,826,683.26	\$636,690.87	\$3,463,374.13
High Energy Physics	\$968,438.60	\$181,086.66	\$1,149,525.26
Political Science	\$16,958.00	\$0.00	\$16,958.00
Psychology	\$533,602.26	\$203,282.70	\$736,884.96
Sociology, Anthropology, and Social Work	\$34,832.82	\$3,564.81	\$38,397.63
Statistics	\$26,784.67	\$2,952.69	\$29,737.36
Total-College of Arts and Sciences	\$17,289,330.88	\$4,228,055.34	\$21,517,386.22

*Note: Data provided by the KSU Controller's Office, Sponsored Projects Accounting

COLLEGE OF BUSINESS ADMINISTRATION	DIRECT COSTS	FACILITIES AND ADMINISTRATIVE COSTS	TOTAL
Dean of Business Administration	\$414,831.59	\$0.00	\$414,831.59
Accounting	\$77,412.63	\$28,709.74	\$106,122.37
Management	\$98,271.05	\$40,649.65	\$138,920.70
Small Business Development Center	\$117,914.03	\$6,291.27	\$124,205.30
Total-College of Business Administration	\$708,429.30	\$75,650.66	\$784,079.96

COOPERATIVE EXTENSION SERVICE

Director of Cooperative Extension	\$60,983.60	\$0.00	\$60,983.60
Extension Engineering	\$290,075.49	\$22,920.12	\$312,995.61
Extension Family and Consumer Sciences	\$374.04	\$0.00	\$374.04
Kansas Forest Service	\$1,124,980.54	\$0.00	\$1,124,980.54
Agriculture and Natural Resources	\$602,218.51	\$0.00	\$602,218.51
Extension Energy	\$48,726.42	\$17,426.45	\$66,152.87
Southwest Area Office	\$44,556.97	\$1,983.57	\$46,540.54
Northeast Area Office	\$20,130.98	\$0.00	\$20,130.98
Southeast Area Office	\$20,944.62	\$0.00	\$20,944.62
Extension Office of Community Health	\$476,114.88	\$931.94	\$477,046.82
Total-Cooperative Extension Services	\$2,689,106.05	\$43,262.08	\$2,732,368.13

COLLEGE OF EDUCATION

Dean of Education	\$3,216,725.77	\$372,005.12	\$3,588,730.89
Foundations and Adult Education	\$308,618.55	\$24,469.74	\$333,088.29
Special Education	\$23,662.56	\$1,183.15	\$24,845.71
Elementary Education	\$976,250.75	\$98,320.51	\$1,074,571.26
Secondary Education	\$77,565.97	\$710.04	\$78,276.01
Total-College of Education	\$4,602,823.60	\$496,688.56	\$5,099,512.16

COLLEGE OF ENGINEERING

Dean of Engineering	\$6,537.99	\$0.00	\$6,537.99
Biological and Agricultural Engineering	\$609,023.16	\$56,122.20	\$665,145.36
Architectural Engineering and Construction Science	\$70,156.51	\$21,956.87	\$92,113.38
Chemical Engineering	\$341,339.81	\$107,985.80	\$449,325.61
Civil Engineering	\$1,039,292.62	\$163,415.72	\$1,202,708.34
Computing and Information Sciences	\$1,235,782.83	\$431,002.19	\$1,666,785.02
Electrical and Computer Engineering	\$361,924.65	\$92,288.22	\$454,212.87
Engineering Experiment Station	\$19,355.80	\$17.16	\$19,372.96
Institute for Environmental Research	\$366,270.74	\$75,999.88	\$442,270.62
Industrial and Manufacturing Systems Engineering	\$252,049.70	\$59,345.87	\$311,395.57
Mechanical and Nuclear Engineering	\$1,019,781.67	\$251,062.23	\$1,270,843.90
Advanced Manufacturing Institute	\$1,791,411.68	\$66,084.26	\$1,857,495.94
Kansas Industrial Extension Services	\$885,741.25	\$62,706.06	\$948,447.31
Center for Hazardous Substance Research	\$1,229,544.68	\$332,909.87	\$1,562,454.55
National Institute for Land Management & Training	\$1,119,217.10	\$139,780.08	\$1,258,997.18
National Gas Machinery Laboratory	\$432,960.12	\$137,270.25	\$570,230.37
Total-College of Engineering	\$10,780,390.31	\$1,997,946.66	\$12,778,336.97

COLLEGE OF HUMAN ECOLOGY

Dean of Human Ecology	\$2,081,141.67	\$484,622.04	\$2,565,763.71
Apparel, Textiles and Interior Design	\$31,746.60	\$2,970.88	\$34,717.48
Hotel, Restaurant, Institution Management and Dietetics	\$43,198.16	\$7,892.33	\$51,090.49
Human Nutrition	\$423,754.39	\$111,466.91	\$535,221.30
School of Family Studies & Human Services	\$2,419,909.68	\$202,531.67	\$2,622,441.35
Total-College of Human Ecology	\$4,999,750.50	\$809,483.83	\$5,809,234.33

SALINA COLLEGE OF TECHNOLOGY	DIRECT COSTS	FACILITIES AND ADMINISTRATIVE COSTS	TOTAL
Salina Arts, Science and Business	\$61,581.46	\$0.02	\$61,581.48
Total-Salina College of Technology	\$61,581.46	\$0.02	\$61,581.48
VETERINARY MEDICAL CENTER			
Dean of Veterinary Medical Center	\$7,359.64	\$0.00	\$7,359.64
Anatomy and Physiology	\$1,910,927.02	\$510,034.68 ...	\$2,420,961.70
Food Animal Health and Management Center	\$390,087.79	\$43,670.62	\$433,758.41
Diagnostic Medicine/Pathobiology	\$860,778.74	\$244,829.99 ...	\$1,105,608.73
Clinical Sciences	\$395,026.69	\$75,442.64	\$470,469.33
Total-Veterinary Medical Center	\$3,564,179.88	\$873,977.93 ...	\$4,438,157.81
GRAND TOTAL	\$57,872,143.28	\$9,916,906.34 ..	\$67,789,049.62

UNIVERSITY SMALL RESEARCH GRANTS

University Small Research Grants are awarded by the Office of Research and Sponsored Programs to support the research, scholarly activity, and other creative efforts of tenure-track faculty.

Spring 2001 Awards

Barnard, Ken, Aviation, \$346. "Certified Flight Instructor Renewal Research."

Behlman, Lee, English, \$1,160. "The Victorians and Ancient Stoicism."

Buszek, Keith R., Chemistry, \$1,000. "Intramolecular Aryne Cycloadditions in Organic Synthesis."

Carpenter, James W., Clinical Sciences, \$2,000. "Pharmacokinetics of Azithromycin and Marbofloxacin in the Cockatiel."

Cochran, Mary Lee, Music, \$2,000. "Ragtime Women: Then and Now."

Dayton, Tim, English, \$800. "Gil Brewer."

Ferguson, Carolyn J., and **Mayfield, Mark H.**, Biology, \$955. "A Plant Specimen Database for the Kansas State University Herbarium."

Gao, Stephen S., Geology, \$3,000. "Construction of a Permanent Seismic Station: Labor Costs."

Gartner, Kurt, Music, \$3,000. "Synthesis of Cuban Musical Styles and Percussion Ensemble."

Gordon, Joye, Journalism and Mass Communications, \$1,000. "Psychological Determinants of Food-Related Risk Perceptions."

Haub, Mark D., Human Nutrition, \$3,000. "Is Glucose Tolerance Decreased by a High Fat Meal in Humans?"

Hemenover, Scott, Psychology, \$2,100. "Neuroticism, Extraversion and Differential Mood Rates: An Experienced Sampling Methodology Study."

Janda, Swinder, Marketing, \$820. "The Phenomenology of Internet Addiction."

Kaup, Migette L., Apparel, Textiles, and Interior Design, \$600. "Assessment of Nursing Station Social Patterns in a Long-Term Care Facility"

Levy, Christopher J., Chemistry, \$2,000. "New Metallocene Catalysts for Asymmetric Transformations."

Liu, Kelly H., Geology, \$2,800. "Construction of a Permanent Seismic Station: Material Costs."

McFarland, Richard G., Marketing, \$3,000. "The Determinants of Interpersonal Sales Influence Tactics."

Mitchell, Kathy, Anatomy and Physiology, \$2,000. "Chronic Heart Failure, Exercise Training and NA+, K+-ATPase Isoform Expression."

Nel, Philip, English, \$650. "Harold, Barnaby, and Dave: The Life and Work of Crockett Johnson."

Olsen, Dennis, Clinical Sciences, \$2,000. "Creation of Isolated Intestinal Pouches for Evaluation of Intestinal Irritation Potential of Orally-Administered Substances."

Parker, Craig B., Music, \$1,200. "Research at UCLA Libraries Regarding 'A History of the Los Angeles Music Festival' and 'Stravinsky Premeires in Los Angeles,' Los Angeles, California."

Pigno, Antonia Quintana, Modern Languages, \$500. "Advanced Poetry: 2001 Iowa Summer Writing Festival."

Sandercock, Brett K., Biology, \$3,000. "Effects of Fire on the Nesting Habitat of Upland Sandpipers."

Sauter, Silvia E., Modern Languages, \$3,000. "25th Summer Session, The School of Criticism and Theory, Cornell University."

Sherow, James E., History, \$950. "A Southern Cheyenne Family History: The Harts from 1900-2000."

Turner, Tracy Margo, Economics, \$1,300. "The Effect of Expanding the Mortgage Interest Deduction to Low-Income Households."

Watts, Carol Ann, Architecture, \$960. "Computer Model of Roman Layers Below the Cathedral of Florence, Italy."

Weiss, Mark L., Anatomy and Physiology, \$3,000. "Exploring the Fate of Xeno-transplanted Stem Cells."

Yum, Young-Ok, Speech, \$810. "A Survey, Diary, and Interview Study on, Motivation, Learning/Performances, Quality of Life, and Communication: How Can We Help Our Students Think Hard, Work Hard, and Play Hard?"

Fall 2001 Awards

Anderson, Barbara and **Adityavarman, Ryadi**, Apparel, Textiles, and Interior Design, \$1667.64. "Observation and Study of Texas A&M University's Historic Preservation Program and Field School

Blake, Kevin, Geography, \$3,600. "Culture, Nature, and Identity in the Hills of the Great Plains."

Cassidy, Christopher M., Management, \$1,500. "The Effects of Leadership Diversity on Organizational Outcomes and Rewards."

Fees, Bronwyn S. and **Murray, Ann**, Family Studies, \$2,400. "Initiation of a Longitudinal Study of Rural, At-risk Infants, Toddlers, and Their Families

Gao, Stephen S., Geology, \$2,500. "Purchasing of A Unix Workstation for the Operation of a Permanent Seismic Station on the Konza Prairie."

Gido, Keith B., Biology, \$3,500. "Food-web Structure of Invasive Species in Their Native and Introduced Ranges."

Haub, Mark D., Human Nutrition, \$1,500. "The Efficacy of Green Tea in Lowering Post-prandial Lipemia in Humans."

Hunt, Daniel W., Art, \$1,650. "Lifting Equipment for Sculpture Research."

Jin, Hyun Seung, Journalism and Mass Communications, \$875. "Super Bowl Advertising and the News: The Effects of News Stories about Advertising Campaign Information on the Brand Memory of Subsequent Advertisements"

Liu, Kelly H., Geology, \$1,800. "Accelerating the Study of the Layering of the Earth."

Martin, Dawn, Marketing, \$1,500. "E-Commerce and Consultative Selling: Assessing their Impact on Business-to-Business Relationships."

Nel, Philip, English, \$1,700. "Harold, Barnaby, and Dave: The Life and Work of Crockett Johnson."

Oviatt, Charles G., Geology, \$1,800. "Stable Isotopes in Lake Bonneville Sediments from the Sevier Basin, Utah."

Paul, Bimal Kanti, Geography, \$600. "Arsenic Poisoning Awareness Among the Rural Residents in Bangladesh."

Phillips, Anne K., English, \$985. "Little Women: A Norton Critical Edition."

Shepard, Scott Roger, Engineering, \$3,000. "Doubling Telecommunications Capacity via New Optical Fiber Amplifiers."

Stone, David R., History, \$1,000. "US-Soviet Financial Relations and the End of the Cold War."

Westman, Karin E., and **Wood, Naomi J.**, English, \$400. "Education Majors and Technology in the Children's Literature Classroom."

Spring 2002 Awards

An, Soontae and **Seung Jin, Hyun**, Journalism and Mass Communications, \$850. "News Media With Interlocking Directorates of Financial Institutions and Leading Advertisers: A Longitudinal Investigation of 13 Publicly-Traded Newspaper Companies From 1989 To 2000"

Blankenau, William F., Economics, \$900. "The Implications of Public Funding of Post-secondary and Primary Education on Income and Inequality."

Chun, Ruthanne, Clinical Sciences, \$2,500. "Evaluation of Ability of Circulation Endothelial Cell Precursors to Engraft in Areas of Tumor Angiogenesis."

Clark, George R., Geology, \$2,000. "Preliminary Survey of the Extent of Organic Matrices Within the Shells or Skeletons of Calcium-Carbonate-producing Invertebrate Phyla."

Dickson, Marsha and **Lehew, Melody L.A.**, Apparel, Textiles, and Interior Design, \$3,000. "Building an International Network of Business Professionals and Academicians."

Dodd, Elizabeth C., English, \$2,000. "Summer Stay at Artist's Colony for Work on New Poetry Collection."

Gao, Stephen S., Geology, \$2,500. "Solving the Mystery of Moving Rocks in Death Valley, California."

Garavito, Lucia, Modern Languages, \$500. "Hispanic Gendering of the Americas: Beyond Cultural and Geographical Boundaries (NEH Institute/ASU, Tempe, Arizona)."

Heller, Mary F., Elementary Education, \$500. "BOOK CLUB: Investigations into Early Literacy."

Jin, Hyun Seung and **Meeds, Robert**, Journalism and Mass Communications, \$500. "News and Advertising: An Information Integration Perspective."

Jones, Keith S., Psychology, \$1,250. "Definitions of Perceptual Information: Implications for Virtual Training."

King, Kathleen, Art, \$1,000. "The Use of Non-Toxic Photosensitive Intaglio Plates as a Suite of New Images Entitled "Natural Arrays."

Liu, Kelly H., Geology, \$2,500. "Seismic Mapping of Underground Caves: A Pilot Study."

Meyers-Bowman, Karen S., Family Studies and Human Services, \$1,500. "Parents, Children, War and Peace in the Wake of September 11th."

Mitchell, Kathy, Anatomy And \$3,000. "Rat Umbilical Cord Stem Cell Repair of Necrotic Heart Tissue."

Moore, Lisa E., Clinical Sciences, \$2,000. "Association Between Gastric Helicobacter Infection and Gastric Lymphoma in Cats: Pilot Project."

Nel, Philip, English, \$1,000. "Dr. Seuss: American Icon."

Schermerhorn, Thomas, Clinical Sciences, \$2,000. "Glucokinase Expression in Feline Liver and Pancreas."

Shang, Xuhong, Art, \$1,500. "Art Supply for New Creative Project."

Shim, Eunju, Apparel, Textiles, and Interior Design, \$500. "Observation and Study of Cornell University's International Workplace Studies Program (IWSP)."

Smith, Jeffrey S., Geography, \$2,000. "Mapping a Working-Class District in Monterrey, Mexico."

Wheatley, Alison E., English, \$1,200. "Student Hourly Research Assistance for Editing Collection of Plays."

Wigfall, La Barbara James, Landscape Architecture/Regional and Community Planning, \$500. "Pattern in the East African Environment"

FACULTY DEVELOPMENT AWARDS

Faculty Development Awards are awarded by the Office of Research and Sponsored Programs and serve primarily as travel awards. They can be used for travel to international meetings, travel for foreign exchange, travel to offices of potential external funding sponsors, and as matching funds on certain fellowships, but they cannot be used for research travel.

Spring 2001 Awards

Asano, Katsura, Biology, \$600. "ZOMES II Meeting, Tel Aviv, Israel."

Ben-Arieh, David H., Industrial and Manufacturing Systems Engineering, \$1,000. "The 16th International Conference on Production Research, Prague, Czech Republic."

Britton, Dana M., Sociology, Anthropology and Social Work, \$1,000. "Rethinking Gender, Work and Organization, Keele University, Staffordshire, England."

Cai, Steve C.S., Civil Engineering, \$1,200. "Travel to Beijing and Shanghai, China."

Clem, Rollie J., Biology, \$1,000. "Annual Meeting of the Society for Invertebrate Pathology, Noordwijkerhout, Netherlands."

Esry, Brett, Physics, \$1,300. "Few-Body Systems at Low Energies: Open Questions, Trento, Italy."

Fagerness, Matthew J., Horticulture, Forestry and Recreation Resources, \$1,300. "International Turfgrass Research Conference, Toronto."

Ganta, Roman Reddy, Diagnostic Medicine/Pathobiology, \$1,000. "International Joint Conference, Society for Tropical Veterinary Medicine (STVM) and Wildlife Disease Association, Pilanesberg National Park, Sun City, South Africa."

Hippolyte, Jean-Louis, Modern Languages, \$1,600. "International Conference of European Literature and Literacy History, Peking University, Beijing, China."

Margolies, David C., Entomology, \$2,000. "Seventh International Symposium on Thysanoptera, Reggio Calabria, Italy."

Nechols, James Robert, Entomology, \$1,000. "First International Symposium on Biological Control of Arthropods, Honolulu, Hawaii."

Nelson, Briana S., Family Studies and Human Services, \$1,000. "The International Conference 'Children—Victims of War and Peace' and the International Bureau for Children's Rights Tribunal Training Sessions, Sarajevo, Bosnia-Herzegovina."

Oberst, Richard D., Diagnostic Medicine/Pathobiology, \$1,000. "Tenth International Symposium Veterinary Laboratory Diagnosticians, Salsomaggiore-Parma, Italy 00."

Parker, Craig B., Music, \$1,500. "College Music Society, Limerick, Ireland."

Passarelli, A. Lorena, Biology, \$1,200. "34th Annual Meeting of the Society for Invertebrate Pathology, The Netherlands."

Prins, Harald E. L., Sociology, Anthropology and Social Work, \$1,500. "Origins of Visual Anthropology, Gottingen, Germany."

Ramm, Alexander G., Mathematics, \$1,245. "Society for Analysis, Applications & Computing, Berlin, Germany."

Ramsay, Michael A., History, \$650. "Society for Military History Annual Conference, Calgary, Alberta."

Roe, Judith L., Biology, \$1,000. "Plant Phosphorylation, Vienna, Austria."

Sandercock, Brett K., Biology, \$500. "International Ornithology Meeting: A Joint Meeting of the American Ornithologists' Union and Society of Canadian Ornithologists, Seattle."

Sheu, Chwen, Management, \$1,100. "Asia Pacific Decision Sciences Institute Conference, Singapore."

Siepl-Coates, Susanne, Architecture, \$2,000. "Annual Conference of the Environmental Design Research Association, Edinburgh, Scotland."

Simon, Madlen, Architecture, \$2,000. "30th International Making Cities Livable Conference, Venice, Italy."

Verschelden, Cia, Sociology, Anthropology and Social Work, \$553. "NIMH Conferences on the Role of Families in Preventing and Adapting to HIV/AIDS, Los Angeles, California."

Wang, Youqi, Mechanical and Nuclear Engineering, \$800. "7th Japan Int'l SAMPE."

Westman, Karin E., English, \$750. "Material Modernisms Conference, University of British Columbia, Vancouver, Canada."

Wright, Doris J., Counseling and Educational Psychology, \$1,000. "Development of Women in Jazz Travel, Washington, D.C."

Fall 2001 Awards

Adityavarman, Ryadi, Apparel, Textiles, and Interior Design, \$500. "The 2nd International Seminar on Vernacular Settlement - Jakarta, Indonesia."

Hamilton, James, Philosophy, \$1,175. "Smith International Colloquium of Philosophy, 'Bariloche', Bariloche, Argentina."

Holcombe, Anna Calluori, Art, \$1,031. "Visiting Scholar, Tsinghua University, Beijing, China. Once a week visit to Shanghai potteries and universities."

Keiser, George R., English, \$500. "'The Rising Dawn': The Contributions of Alchemy to Medieval Medicine and Intellectual Life, Wellcome Unit for the History of Medicine, University of East Anglia, Norwich. In addition, I wish to have a week for research in the medieval manuscript collections at the British Library, London; the Wellcome Library, London; and the Bodleian Library, Oxford for a paper I expect to deliver in July at the Fourth International Conference on Middle English: Language and Text, at the University of Vienna."

Kremer, S. Lillian, English, \$500. "Australian Association for Jewish Studies Annual Conference Melbourne, Australia. Conference Topic: Changing Centers: Migration in Jewish History and Literature. Keynote Speaker and panelist."

Liu, Kelly H., Geology, \$1,300. "Initiation of a GPS-based Research Program."

Najjar, Yacoub M., Civil Engineering, \$1,600. "Attending the Eighth International Symposium on Numerical Methods in Geomechanics, Rome, Italy; and visiting the Department of Earth Science at University of Pavia, Pavia, Italy."

Nelson, Bonnie A., English, \$1,071. "Travel to Prague for Faculty Exchange at Charles University."

O'Malley, Michelle, Journalism and Mass Communications, \$1,000. "18th Annual Conference of the Association of International Agricultural and Extension Education (AIAEE) to be held in Durban, South Africa."

Rozemond, Marleen, Philosophy, \$560. "Conference: "The Eternal Truths," Calgary, Canada."

Sabates, Marcelo, Philosophy, \$1,148. "Sixth International Colloquium of Philosophy "Bariloche,"(Bariloche, Argentina); Conference: "Language, Mind and World," (Buenos Aires, Argentina)."

Steward, David R., Civil Engineering, \$500. "RIZA, Institute for Inland Water Management and Waste Water Treatment, Lelystad, The Netherlands 14th International Conference on Computational Methods in Water Resources, Delft, The Netherlands."

Spring 2002 Awards

Archer, Allen W., Geology, \$1,000. "Travel to Attend International Conference on Tidal Dynamics and Environment, Hangzhou, China."

Arnds, Peter, Modern Languages, \$1,600. "FILLM, International Congress in Bangkok, Thailand: Re-imagining Language and Literature for the 21st Century."

Dickson, Marsha and **LeHew, Melody L.A.**, Apparel, Textiles, and Interior Design, \$1,000. "To Makelindustry Connections in Mexico Focusing on International Research and Education."

Edgar, James H., Chemical Engineering, \$340. "International Workshop on Bulk Nitride Semiconductors."

Eiselein, Gregory J., English, \$2,000."Fakes and Forgeries, Con-men and Counterfeits,' an interdisciplinary conference to be held in Durham, UK."

Galland, John C., Diagnostic Medicine/Pathobiology, \$500. "World Buiatrics Conference, Hanover, Germany; World Veterinary Association's Congress, Tunis, Tunisia."

Ganta, Roman Reddy, Diagnostic Medicine/Pathobiology, \$1,000. "Fourth International Conference on Ticks and Tick-borne Pathogens, Banff, Alberta, Canada."

Gwinner, Kevin, Marketing, \$500. "Frontiers in Services Conference, Maastricht, The Netherlands."

Hancock, Marjorie R., Elementary Education, \$1,500. "International Reading Association 19th World Congress on Reading, Edinburgh, Scotland."

Hedrick, Donald K., English, \$1,500. "Presenting the paper: 'Transversal Performance of the Past in Shakespeare's Henry V' at the International Federation for Theatre Research: 'Theatre and Cultural Memory,' Amsterdam."

Holcombe, Anna Calluori, Art, \$500. "IAC 5th Anniversary General Assembly Meeting, Athens, Greece."

Hossain, Mustaque, Civil Engineering, \$2,000. "The 9th International Conference on Asphalt Pavements, Copenhagen, Denmark."

Janette, Michele, English, \$1,500. "XXII International Congress of Modern Languages and Literatures (FILM)."

Jumpponen, Ari, Biology, \$1,400. "Attendance to 7th International Mycological Congress (IMC7) in Oslo, Norway."

Kambhampati, Srinivas, Entomology, \$1,300. "XIV International Congress of the International Union for the Study of Social Insects (IUSSI), Hokkaido University, Sapporo, Japan."

Kapil, Sanjay, Diagnostic Medicine/Pathobiology, \$1,500. "The IX International Symposium on the Molecular Biology, Evolution, Immunology, and Pathogenesis of Nidoviruses (Arteriviruses and Coronaviruses), Egmond aan Zee, The Netherlands."

Kluitenberg, Gerard J., Agronomy, \$1,500."Host visiting scientist Dr. John H. Knight from August - December 2002."

Lu, Max, Geography, \$1,000. "The First International Conference on Population Geographies, University of St. Andrews, Scotland, UK."

McElroy, Mary A., Kinesiology, \$500. "Travel to Washington, D.C. to Visit NIH Offices."

McFarland, Richard G., Marketing, \$2,000. "The Academy of Marketing Science 2002 Multicultural Marketing Conference. Valencia, Spain."

McMurphy, Rose M., Clinical Sciences, \$500. "The Association of Veterinary Anaesthetists, Fall Conference: Crete, Greece."

Moore, Charles N., Mathematics, \$1,000. "International Congress of Mathematicians; Beijing, China."

Norton-Meier, Lori A., Elementary Education, \$2,000. "Nineteenth World Congress on Reading in Edinburgh, Scotland"; also, "Multilingual Literacy Symposium: Building Cross-National Research Agenda on Multiple Language Literacy."

Parker, Craig B., Music, \$2,000. "Seventeenth International Musicological Society Conference in Leuven, Belgium."

Pei, Zhijian (ZJ), Industrial and Manufacturing Systems Engineering, \$1,425. "Sixth International Conference on Progress of Machining Technology, Xi'an, China, to present two papers; and Senior Visiting Scholar to Tsinghua University, Beijing, China, to give a series of seminars."

Peric, Dunja, Civil Engineering, \$500. "International Workshop on Environmental Geomechanics-Ascona, Switzerland."

Potts, Donna L., English, \$2,000. "Conference on the Literature of Region and Nation at Natal University, Durban, South Africa."

Rahman, Talat S., Physics, \$450. "Travel to Washington, D.C., to visit several program directors at AFOSR and ONR, in particular the following: Dr. Craig Hartley at AFOSR who has already expressed a good interest in a proposal on Ti-Al alloys that I am preparing; and Dr. Larry Cooper and Dr. Vasudevan at ONR, who are interested in nanomaterials and novel materials, respectively."

Rasheed, Hayder A., Civil Engineering, \$2,200. "Second International Conference on Structural Stability and Dynamics (ICSSD 2002), Singapore."

Richter, Linda K., Political Science, \$1,000. "Cultural and Institutional Factors in Political Participation of Women in the South Asia Civil Society."

Roberson, Jerry, Clinical Sciences, \$500. "XXII World Buiatrics Congress, in Hanover."

Romanoschi, Stefan A., Civil Engineering, \$2,000. "The Ninth International Conference on Asphalt Pavements, Copenhagen, Denmark." The trip will include participation at a pre-conference seminar on Accelerated Pavement Testing and a post-conference technical tour of the Denmark Technical University

Shanteau, James C., Psychology, \$1,000. "Visits to the Laboratoire de Travail et Cognition (CNRS) in Toulouse, France, and to the Netherlands Aviation Laboratory (NRL) in Amsterdam."

Sheu, Chwen, Management, \$1,600. "Asia Pacific Decision Sciences Institute Conference, Bangkok."

Simon, Madlen, Architecture, \$1,500. "Association of Collegiate Schools of Architecture (ACSA) International Conference: 'Architecture, Culture, and the Challenges of Globalization'."

Steward, David R., Civil Engineering, \$500. "RIZA, Institute for Inland Water Management and Waste Water Treatment, Lelystad, The Netherlands; and 14th International Conference on Computational Methods in Water Resources, Delft, The Netherlands."

Trocchia, Philip J., Marketing, \$1,000. "2002 European Applied Business Research Conference, Rothenburg, Germany."

Tummala, Krishna K., Political Science, \$1,000. "International Conference of IAS and the Government of India, New Delhi, India."

Yum, Young-ok, Speech, \$2,500. "Fifty-second Annual International Communication Association (ICA) Conference, Seoul, Korea, "Reconciliation Through Communication" and recruitment meetings with faculty members and prospective students at major universities in South Korea (Seoul, Pusan, Taegu, and Kangneung).

DISTINGUISHED PROFESSORS

UNIVERSITY DISTINGUISHED PROFESSOR

FRANK BLECHA Anatomy and Physiology

C. LEWIS COCKE Physics

GARY W. CONRAD Biology

ROBIN DENELL Biology

L.T. FAN Chemical Engineering

BIKRAM S. GILL Plant Pathology

JONATHAN HOLDEN English

KENNETH HOYT Counseling and Educational Psychology

TERRY JOHNSON Biology *

KENNETH KLABUNDE Chemistry

ALAN KNAPP Biology

S. LILLIAN KREMER English

JAN E. LEACH Plant Pathology

CHII-DONG LIN Physics

DAVID LITTRELL Music

JAMES L. MARSDEN Regents Distinguished Professor of Animal Sciences

E. WAYNE NAFZIGER Economics

TALAT RAHMAN Physics

NEVILLE W. (BILL) REAY Physics

PATRICK RICHARD Cortelyou-Rust Distinguished Professor of Physics

THOMAS E. ROCHE Biochemistry

SADAHIRO SAEKI Mathematics

PETER M.A. SHERWOOD Chemistry

ERNEST E. SHULT Regents Distinguished Professor of Mathematics

CHRISTOPHER SORENSEN Physics

BRIAN S. SPOONER Biology

MICHAEL W. SULEIMAN Political Science

LARRY TAKEMOTO Biology

BARBARA S. VALENT Plant Pathology

DEAN ZOLLMAN Physics

* deceased 2002

DISTINGUISHED PROFESSOR EMERITUS

RICHARD CONSIGLI Biology

TIMOTHY R. DONOGHUE Honorary Distinguished Professor Emeritus of Physics

WILLIAM FATELEY Chemistry

NORMAN J. FEDDER Speech

JOHN J. IANDOLO Pathology and Microbiology

DAVID LEITH Regents Distinguished Professor Emeritus of Pathology

DONALD SETSER Chemistry

DUDLEY WILLIAMS Regents Distinguished Professor Emeritus of Physics

RECIPIENTS OF THE DISTINGUISHED GRADUATE FACULTY AWARD

The Distinguished Graduate Faculty Award is made annually to those faculty members who have distinguished themselves nationally and internationally for their excellence in research and graduate education. Normally, up to two faculty members are selected annually by a group of faculty peers. Recipients receive an honorarium and deliver a public lecture following selection for this award.

JOHN F. HELM Architecture and Applied Arts 1955–56
HILMER H. LAUDE Agronomy 1955–56

ALVIN B. CARDWELL Physics 1956–57
CHARLES H. SCHOLER Applied Mechanics 1956–57

HOWARD T. HILL Speech 1957–58
ARTHUR D. WEBER College of Agriculture 1957–58

CHARLES M. CORRELL History 1958–59
LEON R. QUINLAN Landscape Architecture 1958–59

FRANCIS D. FARRELL President Emeritus 1959–60
FRED L. PARRISH History 1959–60

KLING L. ANDERSON Agronomy 1960–61
HOLLY C. FRYER Statistics 1960–61

A. M. GUHL Zoology 1961–62
H. HENLEY HAYMAKER Botany 1961–62

ROBERT KATZ Physics 1962–63

ERLE E. BARTLEY Dairy and Poultry Science 1963–64

ROY LANGFORD Psychology 1964–65

V. D. FOLTZ Bacteriology 1965–66

BREWSTER ROGERSON English 1966–67

JOHN A. JOHNSON Grain Science and Industry 1967–68

R. KENNETH BURKHARD Biochemistry 1968–69

CLIFTON E. MELOAN Chemistry 1969–70

ROBIN HIGHAM History 1970–71

ANGELO C. GARZIO Art 1971–72

L. T. FAN Chemical Engineering 1972–73

IVAN D. TEARE Agronomy 1973–74

STANLEY E. LELAND Veterinary Pathology 1974–75

RICHARD CONSIGLI Biology 1975–76

DUDLEY WILLIAMS Physics 1976–77

FREDERICK W. OEHME Surgery and Medicine 1977–78

ELMER G. HEYNE Agronomy 1978–79

DONALD W. SETSER Chemistry 1979–80

JAMES F. SHEPARD Plant Pathology 1980–81

ROGER FEDDE Anatomy and Physiology 1981–82

NASIR AHMED Electrical Engineering 1982–83

WILLIAM FATELEY Chemistry 1983–84

BURTON I. KAUFMAN History 1984–85
PATRICK RICHARD Physics 1984–85

JONATHAN HOLDEN English 1985–86
HORST LEIPOLD Pathology 1985–86

TERRY C. JOHNSON Biology 1986–87
MICHAEL W. SULEIMAN Political Science 1986–87

CORNELIA BUTLER FLORA Sociology 1987–88
RICHARD N. MCDONALD Chemistry 1987–88

MARGO KREN Art 1988–89
GERALD R. REECK Biochemistry 1988–89

BIKRAM S. GILL Plant Pathology 1989–90
PATRICIA J. O' BRIEN Sociology, Anthropology and Social Work 1989–90

BRIAN S. SPOONER Biology 1990–91
BENJAMIN R. TILGHMAN Philosophy 1990–91

ALBERT N. HAMSCHER History 1991–92
KENNETH J. KLABUNDE Chemistry 1991–92

C. LEWIS COCKE Physics 1992–93
JANE A. WESTFALL Anatomy and Physiology 1992–93

ROBIN E. DENELL Biology 1993–94
JOHN J. IANDOLO Pathology and Microbiology 1993–94
DONALD J. MROZEK History 1993–94

THEODORE L. HOPKINS Entomology 1994–95
THOMAS E. ROCHE Biochemistry 1994–95

GARY W. CONRAD Biology 1995–96
JAN E. LEACH Plant Pathology 1995–96
E. WAYNE NAFZIGER Economics 1995–96

ALEXANDER G. RAMM Mathematics 1996–97
CHRISTOPHER M. SORENSEN Physics 1996–97

FRANK BLECHA Anatomy and Physiology 1997–98
TALAT RAHMAN Physics 1997–98
ROLLIN SEARS Agronomy 1997–98

LARRY TAKEMOTO Biology 1998–99

MARSHA FREY History 1999–00
ERIC MAATA Chemistry 1999–00

GEORGE KEISER English 2000–01
PAUL SEIB Grain Science and Industry 2000–01

SCOT H. HULBERT Plant Pathology 2001–02
JOSEPH VINCENT ORTIZ Chemistry 2001–02

U.S. PATENTS

Issued from July 1, 2001 to June 30, 2002 to the KSU Research Foundation

(Listed in reverse chronological order)

Hongxing Jiang, Jingyu Lin, Sixuan Jin, and Jing Li "Micro-Size LED and Detector Arrays for Minidisplay, Hyper-Bright Light Emitting Diodes, Lighting, and UV Detector and Imaging Sensor Applications" (#6,410,940)

Sherry J. Haar and Joann F. Boles "Therapy Apparel for Children Diagnosed with Sensory Integration Dysfunction" (#6,401,249)

Duy H. Hua and Jean-Pierre Perchellet "Tricyclic and Tetracyclic Pyrones" (#6,384,045)

Gary M. Pierzynski and Ganga M. Hettiarachchi "Method of In-Situ Immobilization and Reduction of Metal Bioavailability of Contaminated Soils, Sediments and Wastes" (#6,383,128)

Carl R. Reed "Apparatus for Cooling and Conditioning Grain" (#6,349,485)

Xiuzhi S. Sun, Paul A. Seib, Gregory S. Karr, and James Drouillard "Biodegradable and Edible Feed Packaging Materials" (#6,337,097)

Paul A. Seib and Kyungsoo Woo "Reversibly Swellable Starch Products" (#6,299,907)

Katherine Tilley "Method of Dough Manufacture by Monitoring and Optimizing Gluten Protein Linkages" (#6,284,296)

Shafiqul I. Chowdhury "BHV-1 Gene-Deleted Virus Vaccine" (#6,284,251)

Yi Li "Transgenic Seedless Fruit Comprising AGL or GH3 Promoter Operably Linked to Isopentenyl Transferase or Tryptophan Monooxygenase Coding DNA" (#6,268,522)

Richard D. Oberst "Automated High Throughput E. coli 0157:H7 PCR Detection System and Uses Thereof" (#6,268,143)

The Kansas State University Research Foundation (KSURF), a not-for-profit 501(c)(3) corporation is assigned the responsibility for technology transfer activities for Kansas State University. KSURF secures legal protection (patents, copyrights, trademarks, etc.) for intellectual property created at the University and facilitates various commercialization

efforts involving this property. Licensing and entrepreneurial initiatives are carried out by the Mid-America Commercialization Corporation in conjunction with KSURF.

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COMMERCIALIZATION OF INTELLECTUAL PROPERTY: MANHATTAN PARTNERSHIPS FOR INNOVATION

BACKGROUND

With the enactment of the Bayh-Dole Act in 1980, American universities have become increasingly involved in technology transfer—the protection and licensing of intellectual property (IP) originating from the institutions' research endeavors. Prior to 1980, the federal government retained title to IP created on federally funded research projects, and the IP was lost to commercialization as a result. The Bayh-Dole Act changed that by allowing universities to retain title and requiring that commercialization efforts be explored. The federal government retains rights for use of the IP.

Most universities that have benefited financially from the Bayh-Dole Act have done so by patenting inventions emanating from the institution's sponsored research projects and licensing those inventions to major corporations. In optimal situations, the royalties and other revenues derived from those licenses exceed the expenses incurred in protecting and licensing the IP, but few such technology transfer operations are highly profitable.

K-STATE TECHNOLOGY TRANSFER

Kansas State University has been involved in technology transfer for many years, and the KSU Research Foundation [KSURF, an affiliated 501(c)(3) founded in 1942] facilitates these efforts. IP created at K-State that has the potential to be protected, licensed, and commercialized is assigned to KSURF. However, because there is no way to predict with certainty which technologies will be successful, a portfolio approach is used, i.e., technologies are screened for commercialization potential and the IP portfolio is "shopped" to potential licensees. Some technologies end up being licensed; some don't.

Since 1995, KSURF has worked in collaboration with the Mid-America Commercialization Corporation [MACC], one of three innovation centers in the Kansas Technology Enterprise Corporation [KTEC] economic development network. The stakeholders that created MACC include KTEC, the City of Manhattan (with the Chamber of Commerce), and K-State. MACC's mission is to promote technology-based economic development in Manhattan and the region, principally by facilitating technology transfer and the start-up of new, technology-based enterprises. To fulfill those tasks effectively, MACC must have access to K-State technologies with commercial potential, so teaming with KSURF was an obvious first step.

In the partnership that developed, MACC focuses on external activities by assisting KSURF in identifying potential licensees for K-State IP and negotiating the licensing terms on KSURF's behalf. KSURF focuses on internal activities, primarily on identifying and protecting K-State IP and on managing the IP and license portfolios. In practice, though, the relationship between KSURF and MACC is transparent and seamless with staff from both entities working as a team across all interrelated activities.

During the early phases of the KSURF-MACC partnership, the traditional university approach to technology transfer was followed most often, whereby technologies are licensed to major corporations. There are problems with this approach, however, since most university research produces early-stage technologies that require significant investments in further development prior to successful commercialization. Many companies are reluctant to make these investments when they

don't have close working relationships with the inventors. K-State is disadvantaged by having few major corporations nearby.

THE TADAC PROGRAM

Fortune 500 companies commercialize only a small portion - perhaps 5% - of the IP that they have created, often investing considerable resources in research and development along the way. The reasons are many and varied for so little being commercialized, but the result is that the economic potential of the IP is lost or significantly reduced. As a result, MACC launched the Technology Acquisition, Development, and Commercialization [TADAC] program in 1998 to acquire dormant or underutilized corporate technologies by way of tax-deductible donations. The intent is to foster the further development and commercialization of IP in the TADAC portfolio for local, regional, and national economic gain. In some cases this may be done via cooperative research with K-State. The rationale for a company to donate a technology is based on the potential tax advantage that can ensue.

Since the inception of TADAC, more than ten Fortune 500 companies have donated technologies to MACC, with the resulting broad-based portfolio having an independent valuation for tax purposes in excess of \$300 million. The IP obtained to date falls generally in the following categories: environmental quality; life sciences; information and communication; material science; manufacturing; and transportation. The technologies are available to scientists at K-State and other universities for research and development purposes, and they are available for licensing.

An example of a research opportunity emanating from the TADAC program involves an herbicide donation by *DuPont*. K-State agronomists have demonstrated extensive weed control for crabgrass and creeping bentgrass with the patented compounds. Corn and sunflowers are unaffected. The donated herbicide can be produced at low cost, and it can be applied at lower rates than many existing commercial products. As a result, the product offers significant commercial potential, and K-State research will be critical to realizing this potential. Accordingly, MACC is treating the technology in a manner similar to K-State technologies, with any royalty returns being shared with the researchers and their departments, as well as with KSURF.

THE FOCUS ON START-UP COMPANIES

KSURF and MACC have focused more attention in recent years on licensing to local start-up companies as an alternate approach to licensing to major corporations. This method directly addresses MACC's local economic development/job creation mission, and in many cases it offers greater potential for significant financial returns on K-State IP. However, it does so at greater financial risk.

In this alternate model, KSURF or TADAC supply the technologies upon which the venture is based, and MACC provides business leadership for the start-up until the company matures sufficiently to employ its own management team. Most entrepreneurship models nationally are deficient in this aspect, and MACC's role in this regard is critical to the success of the venture. When K-State IP is involved, the creator of the IP usually has some role in technology development within the company. By launching a venture with K-State IP, KSURF and MACC secure equity positions in the company

based on their contributions. If TADAC IP is involved, KSURF may or may not have a role and an equity position.

One difficulty with company start-ups is that KSURF and MACC must defer repayment of their expenses for many years—or permanently if the venture fails, as many start-ups do. The investments by KSURF and MACC often amount to tens of thousands of dollars, so there is considerable risk in pursuing this approach. Moreover, because of the magnitude of the investments and the associated risks, it is difficult to undertake a large number of start-up ventures simultaneously.

START-UPS WITH SBIR AWARDS

The federal Small Business Innovation Research (SBIR) program is a key component of the start-up company model that has developed, and without it, the commercialization of K-State IP locally would be nearly impossible. The intent of the SBIR program is to facilitate the development of early-stage technologies to allow their commercialization. As such, SBIR funds can serve some of the functions of very early stage seed capital but with the advantages of not diluting KSURF or MACC's equity positions or having to be repaid. SBIR Phase I awards provide up to \$100,000 for six months of work to establish proof of concept. Depending on the federal agency, Phase II awards provide from \$300,000 to \$750,000 or more for two years of additional development work.

K-State, KSURF, and MACC have been exploiting the SBIR program to launch local start-up ventures since 1996, and the cumulative funding from this source exceeds \$10 million. Initially, the start-ups may be "virtual" companies, having no dedicated facilities or company-paid employees. Procedures are in place to allow start-up company employees to conduct early portions of the work in K-State laboratories, with the costs for use of the facilities covered by the SBIR award. In the first ventures of this type, a new Kansas company was created for each different technology. However, because these efforts often fail at the proof of concept stage, a technology development company has now been created to facilitate these efforts—Kansas Advanced Technologies, LLC.

TECHNOLOGY DEVELOPMENT COMPANY

KANSAS ADVANCED TECHNOLOGIES [KATS], LLC.—KATS serves as a technology development enterprise focused on securing early stage funding, primarily SBIR awards, for KSURF and TADAC IP. As technologies mature with the infusions of SBIR funding and other resources, decisions are made as to the future potential for commercialization. In some instances, it may be appropriate to license the enhanced technology to a major corporation. In other cases, rolling the technology out into a separate start-up venture is the better choice. Either way, the value of the IP will have been enhanced.

START-UP COMPANY OVERVIEW

Each start-up venture is unique. That said, in a "typical" scenario: (1) KSURF works with the K-State researcher(s) to patent a new invention; (2) KSURF, MACC, and the K-State inventor(s) determine whether a start-up venture is feasible and desirable; (3) MACC works with the K-State inventor(s) to develop one or more SBIR proposals; (4) a Phase I award is received by the company (normally KATS in the future); (5) the proof of concept work is carried out in the campus laboratories of the inventor(s) with facility use paid by the SBIR award; (6) a subsequent Phase II award is received by the company, and the project is moved from campus laboratories to the Kansas Entrepreneurial Center; and (7) venture capital and/or private investment money is obtained to move the development forward. In most cases, recent K-State graduates are underpinning the staffing of these start-up ventures.

THE KEC TECHNOLOGY INCUBATOR

The Kansas Entrepreneurial Center [KEC] serves as a business incubator, providing facilities and administrative support for technology-based start-up companies in Manhattan. The KEC is a controlled affiliate of MACC, with sponsorship by the City of Manhattan, the Manhattan Chamber of Commerce, Riley County, Pottawatomie County, K-State, and the KSU Foundation. The offices of KSURF and MACC are located within the KEC at 1500 Hayes Drive, Manhattan, KS 66502–5068. In optimal situations, start-up ventures will mature and "graduate" from the KEC into larger facilities locally, in some cases in the K-State Research Park.

THE K-STATE RESEARCH PARK

The K-State Research Park was developed in 2001 to promote cooperative relationships between K-State and private individuals, companies, and corporations. The primary activities conducted in the Research Park must be related to the teaching, research, service, and/or technology transfer activities at K-State. The KSU Foundation and K-State are developing the Research Park in a cooperative effort. The land on which the Research Park is located is owned by the Foundation and is contiguous with the K-State campus on Manhattan Avenue. This provides a potential site for companies to move from the KEC.

START-UP VENTURE CAPITAL

MACC manages a seed capital investment fund, Manhattan Holdings, LLC, which can infuse early stage funding into new start-up ventures. This provides a source of funds for some costs not covered by SBIR awards. Along with KTEC and the City of Manhattan, the KSU Foundation is an investor in this fund and, as a result, shares in returns on investments.

GRADUATE INTERN PROGRAM

A graduate internship program is under development at K-State to provide students with practical experience in technology transfer. Sponsored by the Graduate School as part of the MBA Technology Entrepreneurship track, a limited number of MBA interns are currently taking part. They are participating in various aspects of the process at K-State (receipt of grants and contracts and disclosure of IP), KSURF (protecting and licensing IP), and MACC (IP assessment and facilitating local start-ups). It is anticipated that the program will expand to include graduate students from multiple science and engineering disciplines and that the number of interns participating in the program will grow substantially.

KSURF IP START-UP VENTURES

NANOSCALE MATERIALS, INC.—*NanoScale* was the first start-up venture launched by KSURF and MACC, originally under the name of *Nantek*. Based on the work of University Distinguished Professor of Chemistry Ken Klabunde, *NanoScale* produces reactive nanoparticles with broad applications in environmental remediation and detoxification of hazardous chemical and biological agents. Started in 1995 as a virtual company, the first employee was hired in 1996 when an SBIR award was received. Since that time, *NanoScale* has received millions of dollars in SBIR awards and private venture funding; the company employs numerous K-State graduates. *NanoScale* moved into a newly constructed corporate headquarters and research facility in the K-State Research Park in 2002, becoming the anchor tenant there.

AGRENEW, INC.—AgRenew was organized in 1998 to develop and commercialize superior products and/or processes based on the use of agricultural waste products and byproducts. AgRenew presently has two primary commercial-

ization targets. One is derived from the research of Dr. Susan Sun in the Department of Grain Science & Industry, and it involves composite products made from wheat straw and soy protein adhesives. The initial product is focused on edible, biodegradable containers for livestock feed supplements, and it is being developed in a strategic relationship with the industry leader in this field. The other target is derived from the research of Dr. Alex Mathews in the Department of Civil Engineering, and it involves the use of fermentation processes to produce environmentally benign, non-corrosive, biodegradable road deicers.

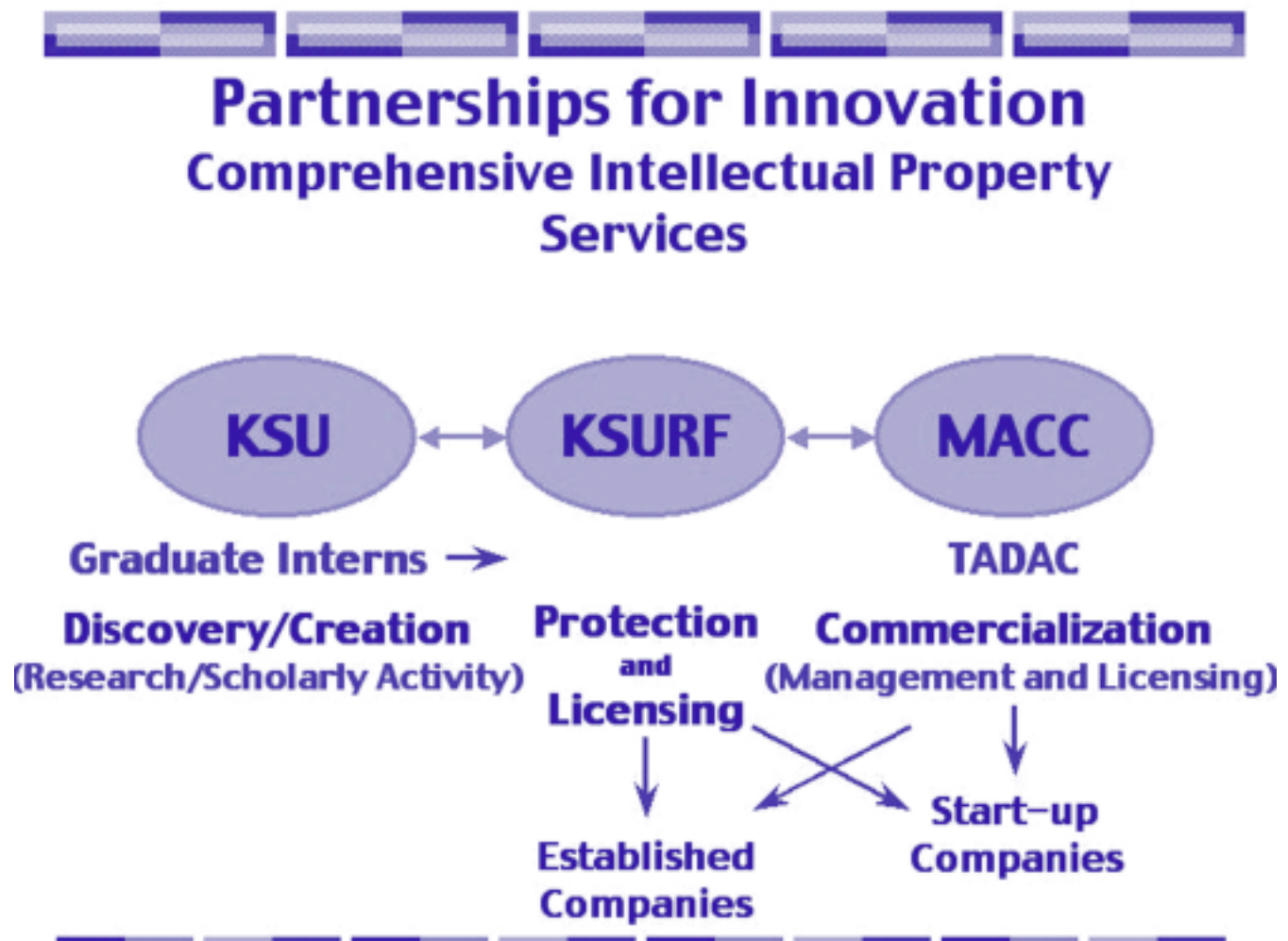
NACELLE THERAPEUTICS, INC.—Nacelle was incorporated in 2000 to develop and commercialize treatments for cystic fibrosis based on the research of Dr. John Tomich in the Department of Biochemistry. Dr. Tomich's research team developed a novel family of transmembrane, ion channel forming peptides that show great promise for cystic fibrosis therapy. Current work at Nacelle is being undertaken with collaborators at the University of Alabama, Birmingham, who have developed specialized animal models to assess treatments for the disease.

TADAC IP START-UP VENTURES

NUTRIJOY, INC.—Founded jointly by MACC and KSURF in 2000, *Nutrijoy* was launched to commercialize a beverage technology from *Procter & Gamble*. The patented process allows milk protein and fruit juice to be mixed, yielding a shelf-stable product. One of the inventors, Dr. David Yang,

was recruited from *P&G* to serve as the president of *Nutrijoy*. *P&G* also included the rights to a proprietary calcium formulation that delivers a highly palatable calcium supplement that is more bio-available than any other form. It offers the only calcium nutritional supplement confirmed in clinical studies to increase bone mass in senior citizens. The first product taken to market by *Nutrijoy* is *Cal-C™*, a calcium and vitamin C supplemented "smoothie" beverage available in four flavors. *Cal-C™* has shown strong customer satisfaction in marketing efforts launched in Kansas and Arizona. *Cal-C™* is also the subject of clinical research in K-State's Department of Human Nutrition to determine its effect on bone density in pre- and post-menopausal women.

COMPACT ENGINE COMPANY, INC.—The *Compact Engine Company* was created in 2002 to pursue the further development and commercialization of the compact compression ignition (CCI) engine. The patent rights to the CCI engine were acquired via a donation from *Caterpillar*, and the exclusive rights are licensed to the *Compact Engine Company*—a "virtual" company initially, with no dedicated funding or paid employees. The opposed-piston compression ignition engine provides improvements in emissions, power density, fuel efficiency, size, weight, and fuel tolerance. While the CCI engine could fit any market from chainsaws to automobiles, a more immediate customer need has been identified in unmanned aerial vehicles for the Department of Defense. As a result, initial efforts are being focused there.



Notice of nondiscrimination

Kansas State University is committed to nondiscrimination on the basis of race, sex, national origin, disability, religion, age, sexual orientation, or other nonmerit reasons, in admissions, educational programs or activities and employment (including employment of disabled veterans and veterans of the Vietnam Era), as required by applicable laws and regulations. Responsibility for coordination of compliance efforts and receipt of inquiries, including those concerning Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act of 1990, has been delegated to Clyde Howard, Director of Affirmative Action, Kansas State University, 214 Anderson Hall, Manhattan, KS 66506-0124, 785-532-6220.

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