Vol. XXV FY 2011

James Madison University Office of Sponsored Programs

Funding News & Notes

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FY 2011 Quick Facts

- 260 Awards
- 389 Submissions
- 185 Faculty and staff investigators
- 67% success rate
- U.S. Department of Energy largest federal sponsor at $5,710,277
- Department of Health & Human Services funded most numerous project at 21
- $22,596,252 in Awards

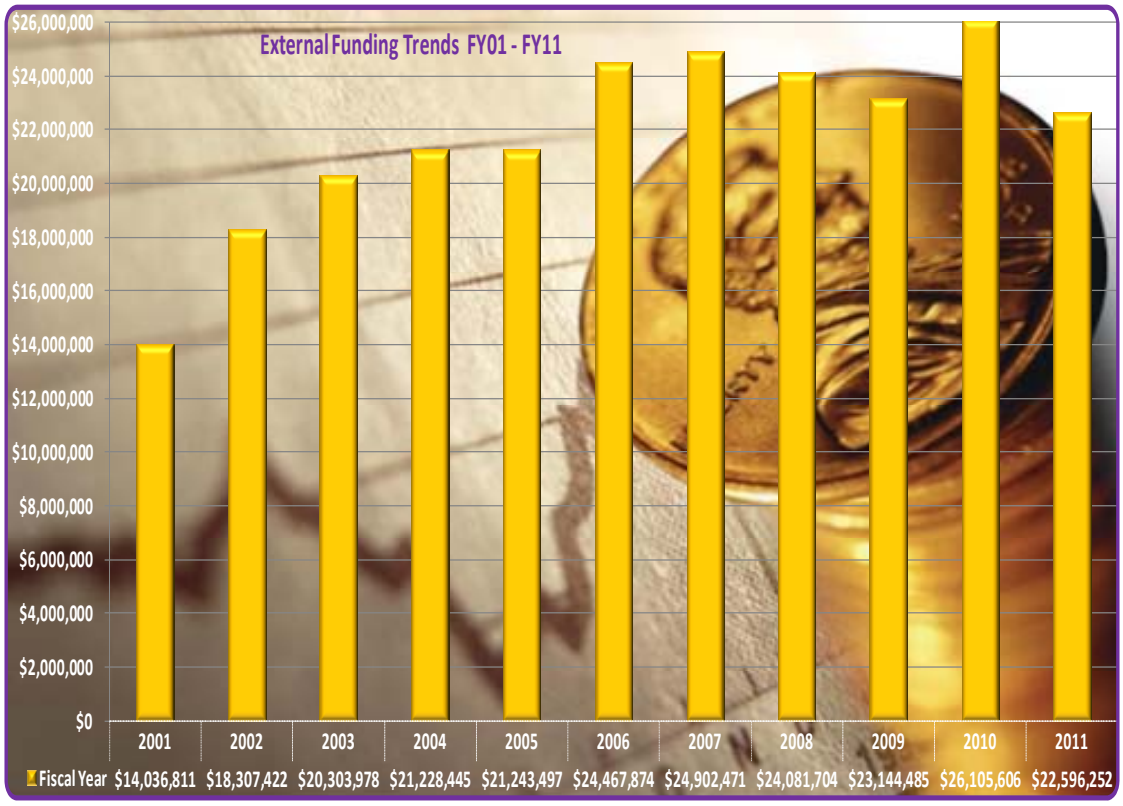
"Research is to see what everybody else has seen, and to think what nobody else has thought."
Albert Szent-Gyorgyi
Hungarian Biochemist, 1937 Nobel Prize for Medicine, 1893-1986

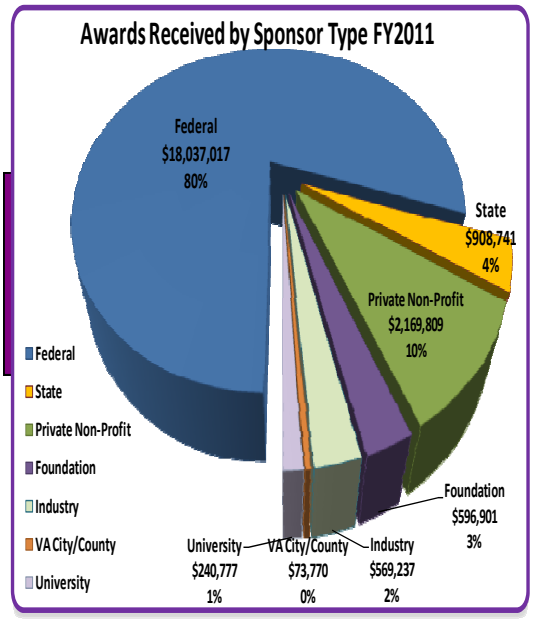
JMU Investigators Secure Funding Exceeding $22 Million

Fiscal year 2011 (FY11) was somewhat disappointing compared to FY10 but still a solid year for James Madison University in terms of externally sponsored activities. More than 185 JMU faculty, students, and staff submitted a total of 389 proposals to a wide variety of sponsors. During the same period, 260 funding applications were selected to receive external funding. Our personnel attained a 67% funding success rate. The focused efforts of faculty, staff, and students within the JMU community have brought in total external funding of $22,596,252 during the period July 1, 2010 through June 30, 2011. Notably, involvement in the pursuit of external funding involves numerous collaborations across disciplines and among organizations outside of the university.

Since FY2001, JMU faculty and staff have submitted 3,676 funding applications and won 2,609 awards, earning $240,418,546 towards research, instruction, equipment acquisition, and public service and outreach operations. The university has achieved significant growth during the past 11 years in sponsored project funding. The graph below charts this increase in awards.

JMU personnel have increased sponsored funding from $14,036,811 in 2001, to $22,596,252 in FY11. This is an increase of 61% in 11 years. In FY2010 sponsored projects exceeded the $25 million mark for the first time as a result of the American Recovery and Reinvestment Act. As funding for the economic stimulus-funding package tapered, FY11 funding stalled as impacted by the downturn in the economy. Again this year, sustainability and conservation related activities were prominent, involving 27 applications for funding and winning 15 awards totaling $6,122,426 in furtherance of the university's defining characteristic to promote environmental stewardship.





External Funding by Agency Type

The chart breaks out funding across the various sectors of sponsors that support JMU's excellence in research, education, training, and service along with the total amount awarded. The individual sectors include federal, state, private/non-profit, foundation, industry, Virginia city/county, and university. A total of 260 funding proposals were awarded in FY11. The majority of awards in both number and total award amount came from the federal government either as direct assistance or as flow-through to JMU from Virginia state agencies. Combined, federal and state funds represented 84% of the overall total awards at $18,945,758 very similar to their combined portion in FY10. Foundation agencies registered a marked increase in their funding levels for FY2011, providing 24 awards and a total of $596,901 compared to just $232,573 and 17 awards in FY2010, a notable 157% growth in just one year's time. Foundation awards represent the continued solid support of The Jeffress Memorial Trust for support of junior faculty with 13 new and renewal projects in the disciplines of chemistry, physics, and biology for a total of $190,000. Private/Non-Profit agencies provided 60 awards totaling $2,169,809 in FY11. This represents a 9% funding increase over FY10 totals from this funding sector. This sum represents numerous individuals working in collaboration with private sources to offer a myriad of services, many of which involve research experiences for undergraduates.

"Research is formalized curiosity. It is poking and prying with a purpose."

Zora Neale Hurston (American folklorist and writer, 1903-1960)

All Colleges and Divisions Augment Resources

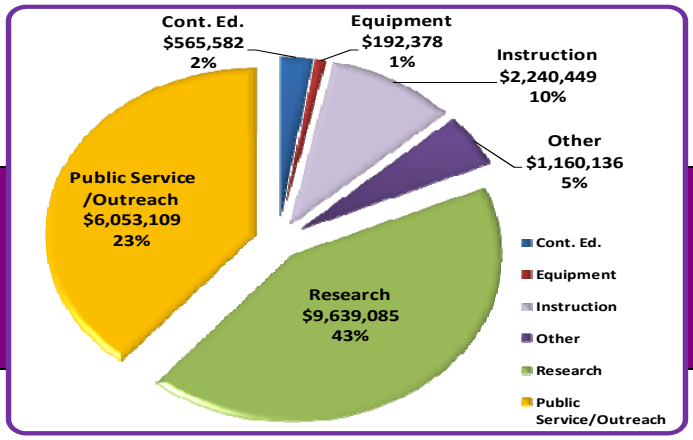
The awards obtained by JMU faculty and staff range in type, including research, public service/outreach, continuing education and instruction development, as well as equipment acquisition. This year saw another increase in collaborative activity involving multidisciplinary projects, inter-institutional collaborations, and private and industry partnerships as researchers reached out to colleagues in other departments, sister institutions, and private funding sources to construct increasingly complex funding proposals.

The College of Integrated Science and Technology (CISAT) earned $8,637,007 during the year, level with the prior year. CISAT's external awards represent 38% of the total funding received for the year. *The College of Science and Mathematics* totals were $2,131,407, or 9% with more and larger awards, retaining level funding over the previous year. *The College of Education* brought in $998,684, or 4%, a large increase over FY10. *College of Business* investigators earned $727,159 in awards, or 3% of the total, a decrease. *The Graduate School* brought in $2,105,037, or 9% of total funding, an increase over the prior year. *Research and Public Service* brought in $5,921,534, or 26%, a decrease over the prior year. Science, Technology, Engineering & Mathematics (STEM) obtained $729,335, 7% of total funding, a decrease. All other departments and divisions, which include the *College of Visual & Performing Arts, Academic Affairs, Administration & Finance* and *The President's Office* contributed $753,626, the equivalent of 3% of the total external funding received during FY11.

College or Division	Awards	Submissions	Award Value
College of Arts & Letters	12	31	$592,465
College of Business	9	9	$727,159
College of Education	10	17	$998,684
College of Integrated Science & Technology	141	170	$8,637,007
College of Science & Mathematics	48	77	$2,131,407
Academic Affairs	5	24	$532,300
Research and Public Service	24	30	$5,921,534
Administration and Finance/Office of the President	3	12	$220,000
The Graduate School	3	5	$2,105,037
College of Visual and Performing Arts	1	1	$1,325
STEM	4	13	$729,335
TOTALS:	**260**	**389**	**$22,596,252**

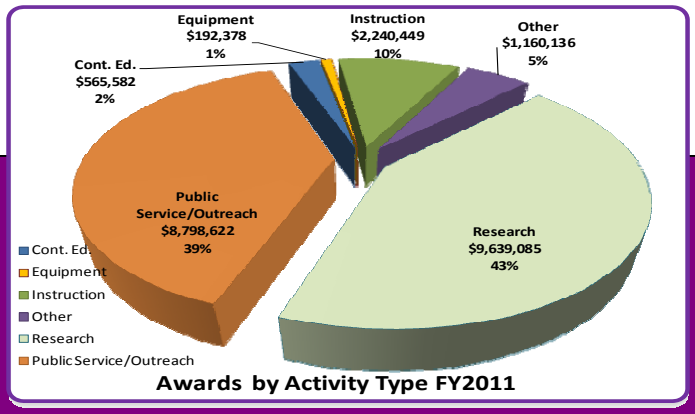
Faculty Initiatives & Activity

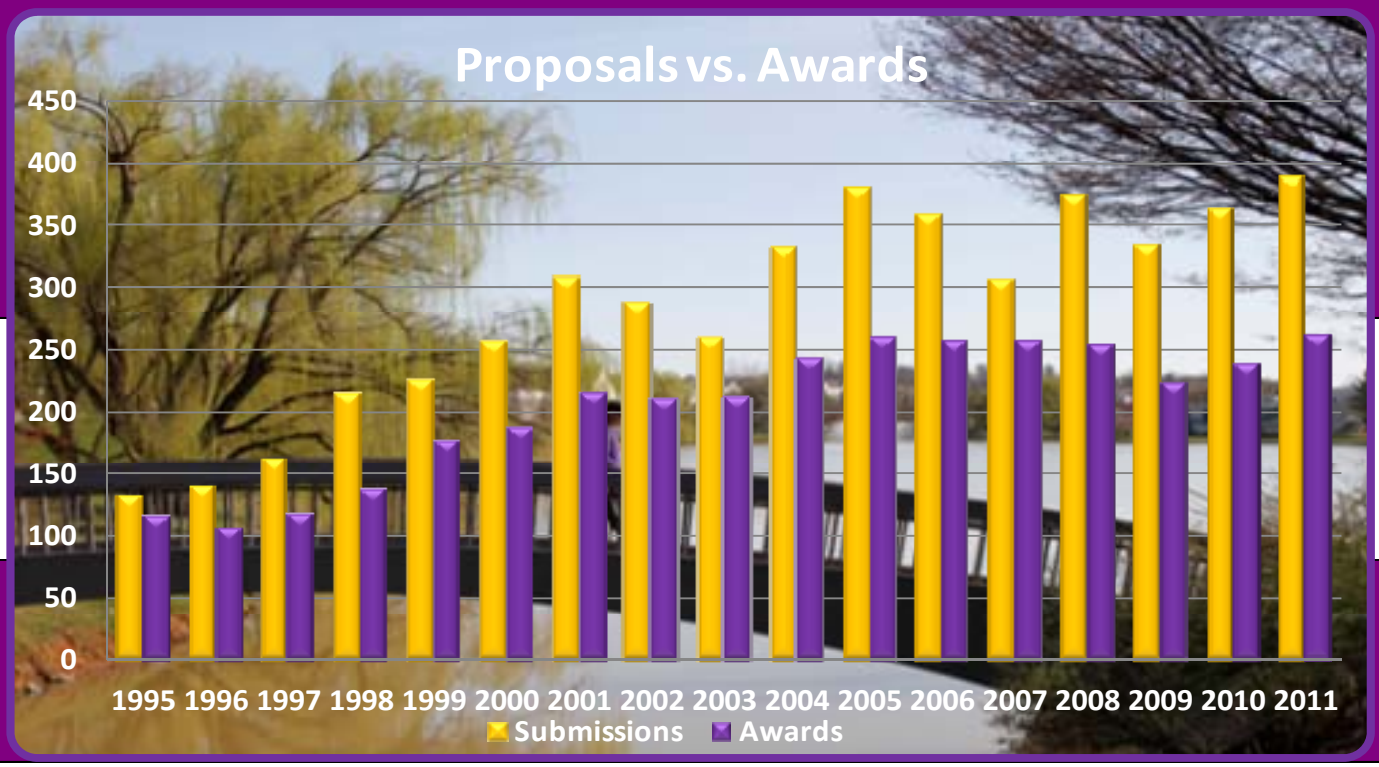
In FY2011 there was a slight (7%) increase in the number of total submitted applications and a larger increase (10%) in the number of projects funded. However, the funding trend is down 13% in overall dollars received or -$3,509,354. The reduction is due in large part to the conclusion of the economic federal stimulus-funded projects. Externally funded applications and awards represented efforts of approximately 185 faculty and staff. The successful applicants achieved a success rate of 67%, a very good indicator of the strong merits of their funding proposals. This funding metric has remained near or exceeded 70% for 17 years.



Awards by Activity Type

Not surprisingly, a large sector of activity at the university relates directly to Research, at $9,639,085 or 43% of all funded projects. Public Service & Outreach is also a significant focus of externally funded projects at $8,798,622 or 39%. Instruction represents $2,240,449 or 10% of funding while Continuing Education at $565,582 and Equipment Acquisition are small percentages of 3% and 1% respectively. Another sector of activity is that of Other at $1,160,136 or 5%, which represents a variety of sponsored activities which do not correspond to any of the preceding categories.





External Funding Success– FY 2011

Ms. Emily K. Akerson, Institute for Innovation in Health and Human Services, received **$10,000** from the Shenandoah Memorial Hospital Foundation, a total of **$17,122** from the Shenandoah County Community Service Act (CSA), a total of **$14,783** from a private sponsor, **$57,663** from the Virginia Department of Social Services, a total of **$2,063** from the Shenandoah County Department of Social Services, and **$46,236** from the Valley Health System - Shenandoah Memorial Hospital to continue to meet the needs of at-risk families in Shenandoah County by providing education, resources, and support; **$72,768** from the Virginia Department of Social Services, and **$5,000** from the Page County Department of Social Services to continue to meet the needs of at-risk families in Page County by providing education, resources, and support; **$2,500** from a private sponsor to provide intensive home visiting and community outreach with the goal of preventing child abuse and neglect, improving maternal and child health and promoting positive parenting outcomes; and **$9,210** from the Valley Program for Aging Services, Inc. to provide educational and administrative services.

Dr. Brian H. Augustine, Chemistry & Biochemistry, with **Dr. William C. Hughes**, Physics and Astronomy, received **$69,000** from the National Science Foundation to research the kinetics and surface modification of Nanocomposite Polymer Thin Films.

Dr. George H. Baker, Institute for Infrastructure and Information Assurance, received **$8,000** from Science Applications International Corporation (SAIC) to participate in the Balanced Electromagnetic Hardening Technology Program (BEHTP) Kickoff Meeting; and to provide support regarding the technical review and analysis of nuclear electromagnetic effects; and a total of **$31,731** from an industry collaborator to perform balanced survivability assessments as a subject matter expert in electromagnetic threats, effects, and protection including EMP and electromagnetic weapons.

Dr. Cheryl L. Beverly, Learning, Technology, and Leadership Education, received **$46,868** from the Virginia Department of Education to provide an interdisciplinary, collaborative forum for the ongoing development and networking of professionals who provide in-service and pre-service professional development to personnel focusing their work on children, ages birth to eight years.

Dr. Amanda G. Biesecker, Integrated Science and Technology, received **$20,000** from The Jeffress Memorial Trust to investigate both the potential direct effect of dengue E protein on chondrocytes, as well as a potential indirect effect of dengue E protein on chondrocytes by using macrophages pre-treated with dengue E protein, followed by co-culture with chondrocytes.

Dr. David F. Brakke, College of Science and Mathematics, with **Dr. Bruce A. Wiggins**, Biology, received **$20,000** from the USDA Forest Service to conduct a comprehensive assessment of the macroinvertebrate data from the George Washington and Jefferson National Forests using water chemistry and other ancillary resource data to assess the impacts of management activities, and demonstrate how information can be used to describe air pollution impacts to the biota of stream ecosystems; **$98,732** from the National Fish and Wildlife Foundation to make substantial improvements in the brook trout resources in the eastern United States by converting riparian and upland pastures to bottomland and upland forests; and **$107,500** from the U.S. Fish and Wildlife Service to provide final rankings of West Virginia and Maryland brook trout habitats to resiliency to climate change.

Dr. Robert N. Brent, Integrated Science and Technology, received a total of **$21,274** from DuPont to investigate the impacts of reduced nutrient levels on the South River.

Dr. Justin W. Brown, Biology, received **$20,000** from The Jeffress Memorial Trust to explore the role of 5HT neurotransmission in the raphé pallidus, an area of the brainstem that likely mediates the autonomic and behavioral responses of the thermoregulatory system in rats.

Dr. Harold M. Butner, Physics & Astronomy, received **$74,682** from the National Aeronautics and Space Administration to contribute to the DEBRIS survey with analysis of the Herschel data.

Dr. Corey L. Cleland, Biology, received **$10,000** from The Jeffress Memorial Trust to understand the principles by which sensory information is used to program movements.

Dr. Anca Constantin, Physics & Astronomy, received **$20,000** from The Jeffress Memorial Trust to identify the physical conditions that show the strongest links to maser activity, and thus to provide efficient criteria for mega-maser hunting.

Dr. Anna M. Courtier, Geology and Environmental Science, received **$35,000** from the Research Corporation to improve understanding of mantle composition, convection, and heat flow.

Ms. Penelope Critzer, Shenandoah Valley Child Development Clinic, received **$310,000** from the Virginia Department of Health and **$68,782** from the Virginia Department of Education to support the education programs of the Child Development Clinic.

Dr. David B. Daniel, Psychology, received a total of **$19,500** from the International Mind, Brain & Education Society to contribute to the funding and growth of the IMBES and the creation of a journal called "Mind, Brain, Education."

Mr. Arthur T. Dean, II, Office of Diversity, received **$50,000** from the Jessie Ball duPont Fund to extend the Professor-in-Residence program to the middle school level.

Dr. Rory A. DePaolis, Communication Sciences and Disorders, received **$6,328** from the University of York to explore the differences in directed speech between American and British-English infants.

Dr. Thomas C. DeVore, Chemistry & Biochemistry, received **$9,500** from The Academy of Applied Sciences to conduct the Virginia Junior Science & Humanities Symposium.

Dr. Daniel M. Downey, with **Dr. Gina MacDonald**, Chemistry & Biochemistry, received **$109,442** from the National Science Foundation to provide undergraduate chemistry research students with the opportunity to develop improved communication tools and methods in science, as well as enhance day-to-day communication between hearing and deaf students.

Dr. Carol C. Dudding, Communication Sciences and Disorders, received a total of **$376,193** from the Virginia Department of Education to assess the feasibility of telepractice in speech language pathology to address the shortage of qualified personnel in Virginia's public schools; and to provide an American-Speech-Language-Hearing Association accredited masters program in Communication Sciences and Disorders.

Ms. Cheryl J. Elliott, Institute for Infrastructure and Information Assurance, received **$30,997** from the University of Virginia to create a "Building Resilient Communities" guide for Virginia localities that will connect the Virginia Critical Infrastructure Protection and Resiliency Strategic Plan (VCIPRS) to local government.

Dr. Judith A. Flohr, Kinesiology, received **$535** from various sponsors to support the LPGA-USA Girls Golf programming; **$4,000** from The LPGA Foundation to support the 2010 LPGA-USGA Girls Golf; **$700** from the Department of Health and Human Services to increase participants' awareness of the role of physical activity in reducing the

the risk for breast cancer, coronary heart disease, and stroke; and **$724** from the Naomi D. Kern Memorial Foundation to support the LPGA-USA Girls Golf outreach activities.

Dr. Diane L. Foucar-Szocki, Learning, Technology, and Leadership Education, received a total of **$550,000** from the Virginia Department of Education to offer English Literacy Civics services to area immigrants and refugees for their achievement of English language proficiency and civic understanding; to establish the Smithland Community Learning Center, linking the Big Brothers Big Sisters AMP IT UP Academic Mentoring Program and the Career Development Academy Adult and Family Learning Center for quality out-of-school, extended day programming; and to establish a Community Learning Center at Skyline Middle School.

Dr. Richard D. Foust, Chemistry & Biochemistry, received **$4,000** from Transprint USA, Inc. to make available a variety of facilities, equipment, technical capabilities, expertise, and services to Transprint USA, Inc.

Dr. Mark L. Gabriele, Biology, received **$52,771** from the Commonwealth Health Research Board to provide needed insights concerning what factors are critical for establishing integrative auditory networks and if/how they are influenced/compromised by current/emerging approaches for treating the hearing impaired.

Dr. Clarence R. Geier, Sociology and Anthropology, with **Dr. Anna M. Courtier**, Geology and Environmental Science, received **$8,788** from the Virginia Department of Historic Resources to integrate a number of preservation oriented groups in an effort to more systematically and completely recover feature and material remains from a Union encampment site; **$9,600** from the Manassas Museum System to support an archaeological project to determine the presence or absence of a stockade or palisade that would have enclosed the Cannon Branch earthwork; **$27,711** from the Shenandoah Valley Battlefields Foundation to identify the range of cultural resources/archaeological sites existing on the Erbach property as well as to maximize understanding of the military and domestic historic use of the land; and a total of **$85,000** from Carmeuse Lime & Stone to complete the Phase I cultural resource inventory of the Middle Marsh Parcel West of Middletown, Virginia.

Dr. John R. Gentile, Integrated Science and Technology, received **$11,816** from the City of Harrisonburg to remove and rehabilitate the 27 campsites as well as map the most heavily damaged road segments in preparation for their removal within the Dry River Water Supply Area.

Dr. John W. Gilje, Chemistry & Biochemistry, received **$80,000** from the Research Corporation to seek methods to further integrate undergraduate research experiences into the Chemistry and Physics department curricula.

Dr. Katrina E. Gobetz, Biology, received **$20,000** from The Jeffress Memorial Trust to test the accuracy and range of the "plaque record" as a gauge of dietary trends that may have accompanied ecosystem shifts and to test a paleontological hypothesis that nutritional stress played a significant role in the behavior, evolution, and extinction of herbivores.

Mr. Paul B. Goodall, Integrated Science and Technology, received **$10,000** from AgWater Technologies, LLC. to provide opportunities for undergraduates to conduct water testing in conjunction with this industrial partner.

Dr. Joann H. Grayson, Psychology, received **$44,750** from the Virginia Department of Social Services to publish and distribute three volumes of the Virginia Child Protection Newsletter throughout Virginia.

Dr. Heather Griscom, Biology, received **$10,000** from the USDA Forest Service to address the critical, unanswered question of how the die-off of a hemlock stand and the resulting regenerating forest in a headwater system will affect water temperature and brook trout populations.

Dr. Michael D. Gubser, History, received **$64,000** from the American Council of Learned Societies for a fellowship stipend.

Dr. Dan C. Halling, Communication Sciences and Disorders, received **$12,000** from the Virginia School for the Deaf and Blind to support a JMU graduate student from the Audiology program to the VSDB as an aural (re)habilitation graduate assistant.

Dr. Reid N. Harris, Biology, with **Dr. Kevin P. Minbiole**, Chemistry, received **$170,000** from the National Science Foundation to study the ecological context of chytridiomycosis, an emerging infectious disease, in amphibians, in order to understand and eventually control the disease.

Ms. Kimberlee Hartzler-Weakley, Institute for Innovation in Health and Human Services, received a total of **$13,326** from industry collaborators to provide weekly support in the surrounding area to encourage early learning and literacy; **$125,000** from the Virginia Early Childhood Foundation to build collaborative partnerships between public and private entities to ensure that all children enter school ready to learn; **$2,500** from Page County Public Schools, **$9,200** from local area schools, and a total of **$18,293** from a private sponsor to provide weekly support in the surrounding area to encourage early learning and literacy; a total of **$144,076** from the Virginia Department of Education to ensure that all migrant students reach challenging academic standards and graduate with a high school diploma or complete a GED to prepare them for responsible citizenship, further learning, and productive employment; and to provide supplemental educational services to the children of migrant farm workers in collaboration with local school districts and to assess language and educational experience and progress of individual students; a total of **$14,020** from a private sponsor to support the teen pregnancy prevention program; **$5,523** from a private sponsor to conduct a youth data survey in the city, county, and private schools in Harrisonburg and Rockingham County; and a total of **$24,000** from the Office on Children and Youth to aid in preventing teen pregnancy and to provide weekly support in the surrounding area to encourage early learning and literacy.

Dr. Daniel K. Havey, Chemistry & Biochemistry, received a total of **$98,795** from the National Institute of Standards and Technology to use laser based optoacoustics to develop a portable high-fidelity greenhouse gas sensor for CO2 and to provide an undergraduate student with valuable research experience at NIST laboratories.

Dr. M. Hossain Heydari, Computer Science, received **$15,000** from the National Security Agency to engage in managing the financial aid fund for the new security paradigms workshop (NSPW); and with **Dr. Florian P. Buchholz** and **Dr. Brett C. Tjaden**, Computer Science, received **$31,601** from the Department of Defense to implement a High School Cyber Defense Boot Camp and Competition and continue development of the Computer Forensics Lab.

Ms. Jane Hubbell, Institute for Innovation in Health and Human Services, received a total of **$538,456** from the Virginia Department of Health, with **Ms. Jane R. Wiggins**, Institute for Innovation in Health and Human Services, to improve campus based suicide prevention and intervention at Virginia institutions of higher education; and with **Mr. Gary Race**, Institute for Innovation in Health and Human Services, to assure the provision of comprehensive, essential health and support services for individuals and families with HIV infection; **$2,145** from the Harrisonburg Community Health Center to provide the use of university's facilities and services to the Harrisonburg Community Health Center; **$50,000** from the Merck Foundation and **$26,899** from Various Sponsors to provide onsite urgent care services, chronic illness

management, and preventative care to homeless clients enrolled in local shelters while simultaneously providing on site case management services when more comprehensive services are needed; and **$6,257** from Crossroads to Brain Injury Recovery, Inc. to provide services to individuals affected by brain injuries, maximizing rehabilitation and contributing to the community.

Dr. William C. Hughes, Physics & Astronomy, with **Dr. Brian H. Augustine**, Chemistry, received **$85,000** from the National Science Foundation, for an interdisciplinary materials science REU program to encourage students to identify themselves as scientists through their participation in actual materials science research, their close interaction with faculty and other students, and their communication of their results both within the REU and at regional and national meetings.

Mr. Dale B. Hulvey, IT - Information Systems, received **$100,000** from the Virginia Department of Education to establish a working relationship and a formal commitment between the two agencies that will allow JMU to conduct technical and project activities.

Dr. Jessica G. Irons, Psychology, received **$38,919** from the Virginia Tobacco Settlement Foundation to explore the extent to which behavioral health-care providers address adolescent nicotine dependence, and determine the relationship between dependence, biochemical measures, and other variables.

Ms. Chelsea L. Jenkins, Virginia Clean Cities, with **Mr. Kenneth F. Newbold Jr.**, Research and Public Service, received **$50,000** from the Department of Mines, Minerals, and Energy to advance a collaborative electric vehicle readiness plan to address short-term issues for impending 2011 electric vehicle deployment as well as to begin planning for long-term issues.

Dr. Elizabeth A. Johnson, Geology and Environmental Science, received **$20,000** from The Jeffress Memorial Trust to probe the structure of the crust and mantle beneath the Shenandoah Valley.

Mr. Abram T. Kaufman, Facilities Management, received **$70,000** from the National Fish and Wildlife Foundation to support several storm water management activities on the campus of JMU.

Ms. Patricia A. Kennedy, Institute for Innovation in Health and Human Services, received **$9,581** from the Virginia Department of Social Services to combine the strengths of the Healthy Families of Page County program with The Reading Road Show's Gus Bus program to help at-risk new parents and young families.

Dr. Robert A. Kolvoord, Center for STEM Education Outreach, received **$499,995** from the National Science Foundation to develop and implement a research design for monitoring STEP implementation among the four partners and to design and conduct an impact evaluation plan to collect data, track progress, and evaluate student outcomes; **$5,000** from Fairfax County Public Schools to facilitate the distribution of the ArcGIS software package to Virginia teachers; and **$25,035** from Northwestern University to design and execute a classroom-based study of student spatial thinking in support of a larger NSF project.

Dr. Margaret M. Kyger, Exceptional Education, received **$96,998** from the U.S. Department of Education to offer integrated training and practice opportunities that will enhance the competencies of beginning special education teachers for providing effective services and instruction in academic subjects to children with high incidence disabilities in K-12 classrooms.

Ms. Susan F. Lamb, WMRA, received a total of **$215,444** from the Corporation for Public Broadcasting to provide a community service grant for public radio.

Dr. Chris S. Lantz, Biology, received **$1,200** from the Virginia Academy of Science to determine if IL-3 influences susceptibility to malaria infection by regulating the production of cytokines which have the ability to influence disease severity; and **$243,200** from the National Institutes of Health to analyze the relevance of IL-3 and the associated contributions of basophils and macrophages in cutaneous leishmaniasis.

Dr. Richard R. Lawler, Sociology and Anthropology, received **$59,992** from the National Science Foundation to determine how life history traits are influenced by genetic, sex-specific, and ecological factors in lemurs.

Dr. Joshua M. Linder, Sociology and Anthropology, received **$3,250** from Primate Conservation, Inc. to continue monthly surveys to assess spatial and temporal trends in primate and other large mammal abundance and in human activities, especially bushmeat hunting.

Dr. Reid J. Linn, The Graduate School, received a total of **$2,105,037** from the Virginia Department of Education with **Ms. Cheryl L. Henderson** and **Mr. John T. McNaught**, Training/Technical Assistance Center, to support state directed activities of the Virginia Department of Education and the Training/Technical Assistance Centers; and with **Ms. Melinda B. Bright** and **Ms. Cheryl L. Henderson**, Training/Technical Assistance Center, to support statewide efforts and activities designed to enhance service effectiveness for personnel in superintendents' region 5 who serve children and youth with disabilities.

Dr. Christy L. Ludlow, Communication Sciences and Disorders, received **$54,015** from Passy-Muir Inc. to provide feedback on product ideas and prototypes for a vibrotactile device, and to consult with Passy-Muir in the development of educational materials related to the device; and**$72,704** from Emory University to develop and validate tools to diagnose Spasmodic Dysphonia, measure severity, and determine the impact of SD on disability and quality of life via a multi-center clinical study for an NIH funded project.

Ms. Remy M. Luerssen, Integrated Science and Technology, received **$2,213** from the Science Museum of Virginia to provide support to the Science on the Sphere project as an advisor to the SMV sphere interpretive program.

Dr. Victoria L. Mariani, Chemistry & Biochemistry, received **$10,000** from The Jeffress Memorial Trust to provide greater insight into how the subtle differences in primary structure confer to protein stability.

Dr. Eric H. Maslen, Integrated Science and Technology, with **Dr. Joseph D. Enedy**, Center for Geographic Information Science, received **$7,000** from the Virginia Geographic Alliance to support the responsibilities and planning activities of the Virginia Geographic Alliance; a total of **$71,500**, with **Dr. Carole Nash**, Geographic Science Program, from the National Park Service to conduct archeological field surveys and conduct condition assessments on sites already listed in the Archeological Site Management Information System (ASMIS) and update the records in that system; and to catalog and analyze artifacts recovered in the course of archeological studies at Shenandoah National Park.

Dr. Merle E. Mast, Nursing, received **$22,789** from an industry partner to enhance the caregivers community network by providing to the community a special program for low income caregivers; **$192,378** from the Health Resources and Services Administration (HRSA) to support advanced practice nursing education in the MSN program with training equipment; and **$20,000** from the Virginia Center on Aging to develop a simulated learning experience designed to address gaps in learner knowledge and understanding by providing students with opportunities to immediately apply what they have learned in the simulation to real-life service learning activities that include providing respite and companion care to family caregivers in the community.

Dr. Christine L. May, Biology, received **$20,000** from The Jeffress Memorial Trust to quantify how the depth and composition of sediment affects hatching and emergence success of juvenile brook trout.

Dr. Lisa M. Maynard, School of Music, received **$1,325** from The National String Project Consortium to create assistantships for undergraduate String Music Education majors from JMU to gain hands-on teaching experiences while offering string instrument lessons to school age students from the Harrisonburg and Rockingham communities.

Dr. Sharon R. Mazzarella, College of Arts and Letters, received a total of **$123,180** from the U.S. Army War College to enable release time for **Dr. Frank B. Kalupa** to serve as the Visiting Professor of Strategic Communication at the U.S. Army War College.

Ms. Jennifer A. McCabe, Institute for Innovation in Health and Human Services, with **Dr. Susan B. Conaty-Buck**, Nursing, received **$38,595** from the National Network of Libraries of Medicine to develop "talking" touch screen health information kiosks to improve access to health information and decrease disparities for adults with low health literacy in Harrisonburg and Rockingham County, Virginia.

Dr. Robert L. McKown, Integrated Science and Technology, received a total of **$101,022** from the National Institutes of Health through the University of Virginia to optimize lacritin's cyroprotective activity and understand its mechanism of action; and with **Dr. Ronald W. Raab**, Integrated Science and Technology, to continue work on the development of syndecan-1 deletion and point mutants to further elucidate the nature of the lacritin cell surface binding complex.

Dr. Jonathan J. Miles, Integrated Science and Technology, received a total of **$2,077,050** from the Virginia Department of Mines, Minerals and Energy to further facilitate the development of a community-scale wind power facility on Tangier Island; to advance the development and deployment of wind power in the Commonwealth through a Small Wind Training and Testing Facility; to advance the business plan for the Offshore Wind Technology Center, analyze the feasibility of turbine test sites, and to provide resource characterization, due diligence, and necessary environmental documentation for the proposed test site facilities; to provide support to the Virginia Center for Wind Energy at James Madison University to maintain an appropriate rate of responsiveness to the demand in services and to upgrade resources; and to re-package the Virginia Renewable Sitting Scoring System (VRS3) for wind and wind ordinance training materials, as well as make them available online and to disseminate information through a series if workshops to be held throughout the Commonwealth; with **Dr. Keith S. Holland**, School of Engineering, **Ms. Remy M. Luerssen**, Integrated Science and Technology, and **Dr. James W. Wilson**, Center for Geographic Information Science, **$30,000** from the U.S. Department of Energy to formalize the Wind Applications Center (WAC) at JMU and to employ a novel Wind for Schools (WfS) facilitation scheme for K-12 schools in Virginia; and **$40,000** from the Department of Mines, Minerals, and Energy to address the need for assessment of the wind conditions at the proposed sites for platforms that comprise a Coastal Wind Turbine Demonstration.

Dr. Kevin P. Minbiole, Chemistry & Biochemistry, received **$1,026** from DuPont to synthesize biologically relevant natural products and related structures for testing and evaluation of properties useful for agricultural and horticultural crop protection agents; and **$7,700** from the National Institute of Standards and Technology to provide an undergraduate student with research experience at the laboratories of the National Institute of Standards and Technology to offer unique research and training opportunities for undergraduates, providing them a research-rich environment and exposure to state of the art equipment.

Dr. Jonathan D. Monroe, Biology, received a total of **$24,000** from Pearson Education to prepare materials in connection with the textbook entitled, Biological Science, Fifth Edition; and **$10,000** from The Jeffress Memorial Trust to localize the beta-amylase BAM proteins, and to generate mutants and transgenic plants with which to begin to understand their function.

Dr. Thomas E. Moran, Kinesiology, received a total of **$29,972** from Slippery Rock University of Pennsylvania to provide individualized programming and instructional support to empower individuals who have disabilities with the "tools" they need to successfully participate in community-based recreational programs; and **$2,000** from the CVS Caremark to implement a mentorship program for individuals with disabilities.

Mr. Kenneth F. Newbold, Jr., Research and Public Service, with **Dr. Carole L. Nash**, Geographic Science Program, received **$4,500** from the Wintergreen Nature Foundation to continue the eighth season of the archaeological study in the Wintergreen development; **$227,854** from Virginia Clean Cities, Inc. to reduce petroleum consumption in the transportation sector by advancing the use of alternative fuels and vehicles, idle reduction technologies, hybrid electric vehicles, fuel blends, and fuel economy; and with **Dr. Jeffrey D. Tang** , Integrated Science and Technology, a total of **$2,943,630** from the Virginia Department of Mines, Minerals and Energy to increase the use of alternative fuels and advanced technology vehicles as a means to reduce U.S. dependence on imported petroleum, increase fuel economy and improve emissions.

Dr. M. Ioana Niculescu, with **Dr. Kevin L. Giovanetti** and **Dr. Gabriel Niculescu**, Physics, received a total of **$243,000** from the National Science Foundation to explore the transition between the perturbative and the non-perturbative regimes, quark confinement and hadronization, and measurements of fundamental quantities.

Dr. John B. Noftsinger, Research and Public Service, received **$206,207** from the Shenandoah Valley Partnership, with **Mr. Donald R. Sullenberger III**, Shenandoah Valley Partnership, to provide quality economic development support services for its regional members, to prospects, existing business, and the Virginia Economic Development Partnership; and with **Mr. Kenneth F. Newbold, Jr.**, Research and Public Service, **$48,577** to support the Shenandoah Valley Technology Council (SVTC), which serves as an advocate for developing the technological and workforce development infrastructure required to support technology-related industries in the region; and with **Mr. Kenneth F. Newbold, Jr.**, Research and Public Service, **$750,000** from the U.S. Department of Energy to provide a path forward for Virginia to be the national model in energy efficiency and alternative energy implementation as JMU establishes a framework for reaching 25 percent renewable energy before 2025.

Dr. Maria C. Papadakis, Geographic Science Program, received **$66,893** from the Environmental Protection Agency to assess the feasibility of achieving significant reductions in energy consumption (kBTU) and GHG emissions using a set of low cost, no cost, and short payback best practices.

Dr. G. Edgar Parker, Mathematics and Statistics, received **$2,404** from The Educational Advancement Foundation to produce useful video packages for enhancement of the video sessions for Moore method seminars and to increase the data base from which the Moore method can be studied as a viable pedagogy.

Dr. Scott A. Paulson, Physics & Astronomy, received **$10,000** from The Jeffress Memorial Trust

to study the relationship between the atomic scale structure and electrical properties of double-walled carbon nanotubes.

Dr. Olga Pierrakos, School of Engineering, received **$175,000** from the National Science Foundation to provide motivation, training, and resources to catalyze widespread adoption of Learning Through Service among engineering faculty, departments, and colleges interested in offering modern and effective curricula.

Dr. Robert J. Prins, School of Engineering, received **$29,305** from Outlier Electric Vehicles, Inc. to address the design and partial construction of an electric motorcycle.

Dr. Eric J. Pyle, Geology and Environmental Science, received **$13,629** from the U.S. Department of Education to coordinate STEM coursework offered and to develop, deploy, and communicate results of STEM secondary content course and elementary institute science concept needs assessments among the teachers participating in the project.

Dr. Brianna Quinn, Exceptional Education, received **$23,720** from the Virginia Department of Education to develop and deliver courses via distance education, expand student participation, and carry out administrative responsibilities for the Visual Impairments Consortium.

Dr. Abdelrahman M. Rabie, Integrated Science and Technology, received **$4,059** from HDT Expeditionary Systems, Inc. to monitor and assist in the setup of a testing site for cold weather conditions.

Mr. Gary S. Race, Institute for Innovation in Health and Human Services, received **$99,078** from the Center for AIDS Intervention Research (CAIR), Medical College of Wisconsin to recruit statewide samples of people living with HIV (PLWH) and HIV-negative persons at high risk for the infection for data collection sessions; **$176,488** from DuPont to increase the knowledge of the South River (SR) and South Fork Shenandoah River (SFSR) mercury fish consumption advisories for the Spanish speaking immigrants throughout the Shenandoah Valley; a total of **$48,000** from the Harrisonburg-Rockingham Community Services Board to provide interpretation services to non-English speaking clients; **$78,581** from Virginia Commonwealth University to promote health careers and access to primary care for medically underserved populations through community-academic partnerships; a total of **$768,125** from the Virginia Department of Health to provide management services and implement the Virginia Medical Interpreter Training Grants Program; with **Ms. Jane Hubbell**, Institute for Innovation in Health and Human Services, to assure the provision of comprehensive, essential health and support services for individuals and families with HIV infection; coordinate and provide training sessions developed by the Virginia Department of Health on the Public Health Response to Sexual and Domestic Violence for family planning clinic nurses and home visitors; provide training sessions developed by VDH on the Public Health Response to Sexual and Domestic Violence for family planning clinic nurses and home visitors; provide training development and provisions for the Home Visiting Consortium; design, direct, implement, and evaluate the Virginia WISEWOMAN/Every Woman's Life project which focuses on adding preventive health services such as nutrition and physical activity to breast and cervical cancer screening services; provide the position of Health Education/Communication Coordinator to coordinate the public education, professional development and recruitment components of Every Woman's Life; with **Ms. Susannah M. Lepley**, Blue Ridge AHEC, **$14,725** from the Rockingham Memorial Hospital Foundation to facilitate an increase in knowledge within the Spanish-speaking immigrant community about behavioral health in the United States; greater knowledge about immigrant issues among behavioral health professionals; and collaboration among a diverse group of immigrants and behavioral health professionals to create a community plan to work on the most urgent immigrant behavioral health issues; and **$5,752** from the Valley Aids Network to provide educational and health administrative services.

Dr. Nicole M. Radziwill, Integrated Science and Technology, received **$19,810** from the New Jersey Institute of Technology to manage the automation of data collection from Open Knowledge Exchange System (OKES) to provide an extensible repository of research metadata that describes the evolution of user behavior and knowledge creation.

Dr. Vicki A. Reed, Communication Sciences and Disorders, received **$45,500** from the Scottish Rite Foundation of Virginia to continue support of the JMU-Scottish Rite Language Disorders Clinic.

Mr. Henry A. Reeves, Small Business Development Center, received a total of **$302,832** from the U.S. Small Business Administration to support programming of the Small Business Development Center; to provide counseling to small business owners, and to provide technical advice and guidance; **$5,000** from the City of Harrisonburg to support the Small Business Development Center; and **$5,010** from various sponsors to support the Small Business Development Center.

Dr. Robert D. Reid, Institute of Certified Professional Managers, received **$248,000** from the Institute of Certified Professional Managers to maintain the organization's national headquarters on the campus of James Madison University.

Dr. Judith T. Rocchiccioli, Nursing, received **$26,795** from the U.S. Department of Health and Human Services to support full and part time, current and future graduate students in the nurse practitioner and nurse educator tracks at JMU.

Dr. Kenneth R. Rutherford, Center for International Stabilization & Recovery, received a total of **$1,043,615** from the U.S. Department of State to research and develop a training strategy that will improve management skills for Iraqi mid-level managers involved in mine and explosive remnants of war action activities; with **Dr. Suzanne L. Fiederlein**, to foster management skills by providing senior-level managers with the tools necessary to make effective policy and practice decisions; to benefit survivors of conflict in multiple countries by conducting peer-to-peer support activities; to maintain the Mine Action Information Center (MAIC) website, publish and maintain new resources, and upgrade when necessary as well as to maintain and annually update the Online Global Mine Action Registry (GMAR); and to provide the Frasure-Kruzel-Drew Humanitarian Mine Action Fellowship; **$119,887** from private donors to serve as the depository and active agent for continuing peer support intellectual capability, trainings and program implementation in post-conflict countries including Africa, the Middle East and Latin America; **$70,992** from Fibertek, Inc. to facilitate the exchange of information relevant to issues of test and evaluation and of research and development for mine action; and **$175,164** from the National Committee for Demining and Rehabilitation (NCDR) to provide instruction and materials for the Explosive Remnants of War Training Course.

Dr. Sean T. Scully, Physics & Astronomy, received **$12,501** from NASA Goddard to extend the development of a model to Radio Loud AGN and its application to the LAT blazar observations.

Dr. James M. Shaeffer, Outreach and Engagement, received **$4,408** from the Virginia Department of Correctional Education to provide staff development and training programs.

Dr. Dinesh R. Sharma, Mathematics and Statistics, received a total of **$12,557** from Florida State

University to perform all statistical analyses on pilot and interim main study data and quality assurance assessments for a cognitive behavioral study of dementia caregivers.

Dr. David A. Slykhuis, Middle, Secondary, and Mathematics Education, received **$25,000** from the Virginia Department of Education to provide funding for the K-8 Developing standards-based Individualized Education Program (SB-IEP) Mathematics Academy.

Dr. Lee G. Sternberger, International Programs, with **Dr. Margaret B. Schaeffer**, College of Education, received **$151,605** from the International Research & Exchange Board (IREX) to carry out a semester-long program to showcase the best of U.S. educational concepts, technology, civic life and culture for up to 16 foreign secondary-level teachers in a range of disciplines; **$208,458** from the Institute of International Education, Inc. to improve the language skills and regional expertise of future military officers through the ROTC Dukes Battalion and strengthen the Department of Foreign Language, Literatures and Cultures, particularly in Swahili language offerings.

Dr. Stephanie B. Stockwell, Integrated Science and Technology, received **$20,000** from The Jeffress Memorial Trust to study the mechanism of FegA activity in the symbiosis, which may lead to the identification of a putative intermediate-stage host-microbe recognition event, and will facilitate many avenues of future research, including in-depth FegA mechanistic studies.

Dr. Trevor F. Stokes, The Alvin V. Baird Attention and Learning Disabilities Center, received **$18,000** from the Shenandoah Valley Regional Program to provide an internship for a student in the Harrisonburg City and Rockingham County School Systems.

Ms. Lynne F. Stover, Center for Economic Education, received **$6,050** from the Council for Economic Education to provide trainings and workshops to area classroom teachers in implementing a mini-economy program that will provide meaningful instruction in entrepreneurship and economic education for their students.

Col. Nick D. Swayne, College of Education, received **$10,000** from the U.S. Department of State to provide a training course for teachers on literacy teaching methods for teaching literacy to Iraqi citizens; **$30,544** from Industry Donors sponsorship of robotics teams; and **$215,554** from the State Council of Higher Education for Virginia (SCHEV) to improve teacher quality in science, technology and math content knowledge and pedagogical skills and address the needs of middle and high school teachers and principals.

Dr. Anthony L. Tongen, with **Dr. John H. Johnson Jr.**, Mathematics and Statistics, received **$27,500** from The Mathematical Association of America to continue the M^3 summer program to foster mathematical development and personal mentorship.

Dr. William G. Tucker, with **Dr. Robert N. Brent**, Integrated Science and Technology, received **$18,755** from the U.S. Geological Survey to continue to establish the technical and economic feasibility of the USGS process for treating acid mine drainage.

Dr. Brian C. Utter, Physics & Astronomy, received **$45,268** from the National Science Foundation to understand the influence of surface chemistry on the jamming and flowing of submerged granular flows.

Dr. C. Steven Whisnant, Physics & Astronomy, received a total of **$126,000** from the National Science Foundation to investigate the properties of the nucleon and nucleon resonances through Compton scattering and the production of mesons as well as the study of photonuclear reactions at low energy.

Ms. Michele M. White, Office of the Registrar, received **$4,907** from the US Department of Veterans Affairs to travel to state, regional, and national conferences and professional meetings to gain valuable information on VA education programs, recent changes in the law and pending legislation.

Dr. Steven J. Whitmeyer, Geology and Environmental Science, received a total of **$175,352** from the National Science Foundation to develop a new level of 4-dimensional virtual globe that will allow students to explore the Earth (and compare it with the Moon and Mars) to leverage the under-appreciated capabilities of the Google Earth Application Program Interface (GE API) to create new learning experiences for formal and informal geoscience students of all ages; and with **Dr. L. Scott Eaton**, Geology and Environmental Science, **$21,648** from the Virginia Department of Mines, Minerals and Energy to support bedrock and surficial geologic mapping projects along the interstate 81 corridor in western Virginia.

Dr. Jacqueline A. Williams, Kinesiology, received **$36,000** from the Virginia Department of Education to provide funding for a high-quality health and physical education content/teaching summer institute.

Dr. James W. Wilson, Integrated Science and Technology, received a total of **$30,526** from the National Science Foundation to develop and deliver educational materials related to the portal, tools, and ontological repository for use in undergraduate university courses; and to support an undergraduate student to help monitor, develop, and test education materials, including work with the geospatial ontology body of knowledge as a potential add-on to the University Consortium of GIScience body of knowledge project.

Mr. William R. Wilson, Madison Institutes, received a total of **$167,330** from the Center for Civic Education to implement the National High Risk Upper Elementary We The People Institute.

Dr. William C. Wood, Center for Economic Education, received a total of **$160,237** from Shenandoah Valley Economic Education, Inc. to provide school systems of Harrisonburg and Rockingham County with economic teacher consultation, training, and assistance with materials.

Dr. Yanjie Zhang, Chemistry & Biochemistry, received **$10,000** from The Jeffress Memorial Trust to design appropriate model systems for biomineralization that will help disentangle the complicated interactions at the protein-biomineral interface.

Dr. Rhonda M. Zingraff, with **Ms. Jane Hubbell**, Institute for Innovation in Health and Human Services, received a total of **$2,153,637** from the Virginia Department of Health to develop and produce resource materials to support underserved mothers and children with healthier food options and encourage them to adopt healthy habits.

Dr. Robert H. Zullo, Kinesiology, received **$16,804** from Travel, Events & Management in Sports (TEAMS) to forge a relationship between the national TEAMS Sports Conference & Expo and the James Madison University Sports & Recreation Management graduate program and undergraduate programs.

"The greatest discoveries of science have always been those that forced us to rethink our beliefs about the universe and our place in it."
(Robert L. Park, in *The New York Times*, December 7, 1999)

OSP Compliance Activities and Outreach

OSP is James Madison University's central office for review of all proposals to external funding agencies for compliance with university federal, state and sponsor requirements, regulations and policies. In recent years, the complexity of regulatory oversight has dramatically increased especially regarding research involving animals and human subjects. OSP plays a lead role in the coordination and documentation of all IRB and IACUC activity and reporting at the university. OSP staff coordinates training and documentation of all human subjects research and animal care and use activity at the university.

"Research is the process of going up alleys to see if they are blind."
~Marston Bates (American zoologist and writer, 1906-1974)

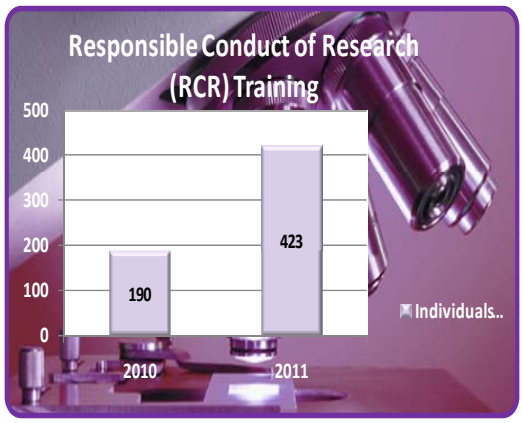
FY 2011 Compliance Quick Facts

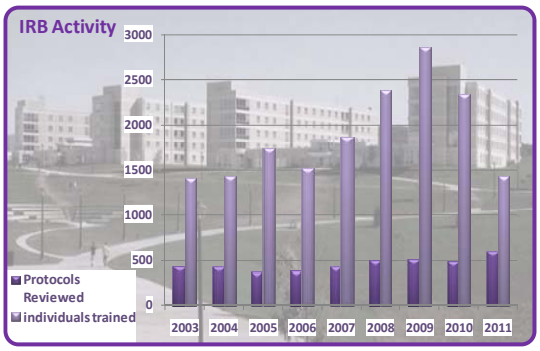
- 423 trained in Responsible Conduct of Research
- 596 IRB protocols processed
- 1,426 individuals trained in Human Research
- 28 IACUC protocols reviewed
- 80 individuals trained in humane care and use of animals in research

"Somewhere, something incredible is waiting to be known."
Dr. Carl Sagan (American Astronomer, Writer and Scientist, 1934-1996)

Responsible Conduct of Research (RCR)

The OSP provides training for the Responsible Conduct of Research (RCR) to comply with mandated federal sponsor guidelines, which promote integrity in the proposing, planning, conducting, reporting, and reviewing of research. The chart at right indicates RCR training of 423 individuals in the responsible conduct of research during the 2010-2011 Academic Year. The office offers an array of online training to the university community, which satisfies federal, state and institutional regulations governing research ethics and the responsible conduct of research.



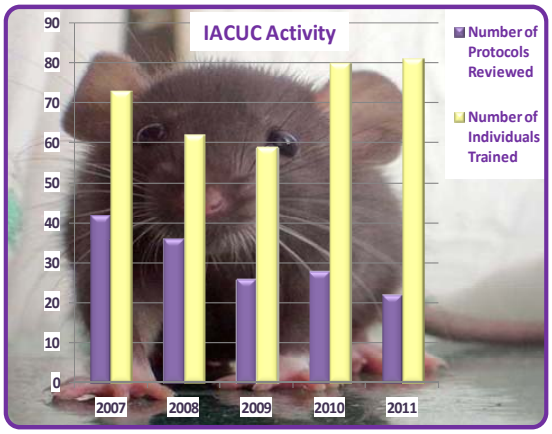


Institutional Review Board (IRB)

The Institutional Research Board (IRB) is responsible for ensuring compliance with all federal and state regulations regarding research with human subjects. As a continuation of regulatory compliance service to the faculty and student research community, OSP administered the review, editing, distribution, and approval process of 596 Human Research protocols during the 2010-2011 Academic Year and the training of 1,426 individuals.

Institutional Animal Care & Use Committee (IACUC)

The OSP also administers all institutional care and use (IACUC) activity and bi-annual laboratory inspections at the university to ensure federal animal care and use regulations are observed in animal laboratories. During FY 11, training was provided for 80 investigators and individuals in humane care and use of animals in research, and 28 protocols were reviewed. During the same period in FY10, 59 investigators were trained and 26 protocols were reviewed.



The OSP homepage can be accessed at the following URL:
www.jmu.edu/sponsprog/
For details on other aspects of sponsored programs, contact our office at
(540) 568-6872
jmu_grants@jmu.edu