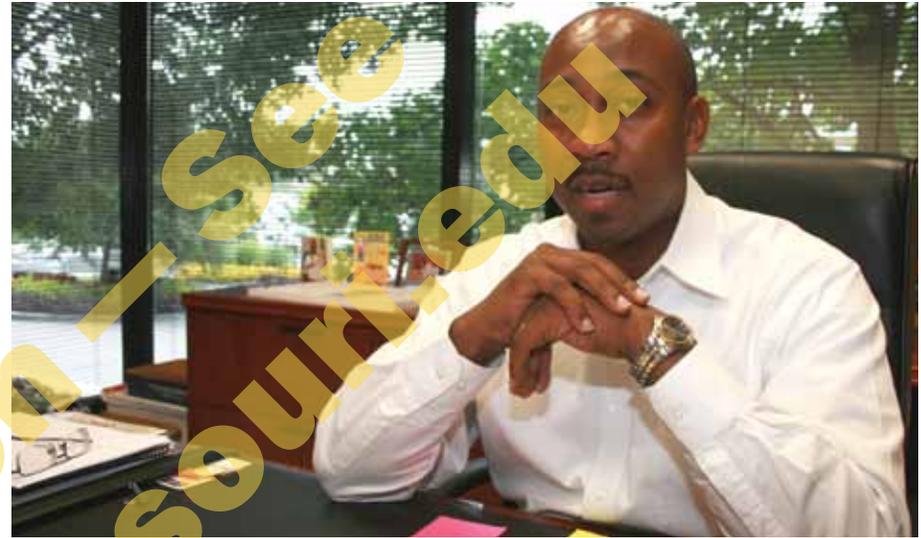


Energizing Missouri's Future

RELEVANT • RELIABLE • RESPONSIVE



MU Extension in the Northwest Region

The Northwest Region encompasses 15 Missouri counties — Andrew, Atchison, Buchanan, Caldwell, Clinton, Daviess, DeKalb, Gentry, Grundy, Harrison, Holt, Livingston, Mercer, Nodaway and Worth.

MU Extension's Northwest Region is flanked on the west by the Missouri River. Moving eastward, fertile river bottom soil turns to rolling hills abundant with row crops and pastures. Counties in the region rank in the top five in Missouri for corn, beef and swine production.

Primarily rural, the region is home to St. Joseph, the sixth largest city in Missouri and the largest urban center in the region. One-third of the region's 239,058 residents live in St. Joseph, which has a population of about 75,000. Other urban areas include the trade centers of Maryville and Chillicothe. Nine counties in the region have no sizeable urban area. Because the major employers are located in the urban centers, the region has one of the higher commute rates in the state.

Almost 73 percent of the region's residents own their homes. The high school graduation rate is 86 percent and the college graduation rate with a bachelor's degree or higher is 15.7 percent. The region has many smaller schools as a result of the rural population levels. It is not uncommon in the region to find schools with an 8-man football team, two schools cooperating to form sports programs, and schools where students participate in everything. Communities are active and demon-



strate community pride in their schools and towns.

The region has one of the largest ranges in household income, even though the median household income is \$40,575 (\$5,700 below the state median) and the number of persons below the poverty line is at 14.46 percent, just above the state level of 14 percent.

The western counties were devastated by Missouri River flooding that began in June. MU Extension was a vital resource for local community emergency preparedness, providing knowledge and access to programs and resources after the floodwater effects.

Five of Missouri's 16 major rivers flow through the area — the Missouri, Grand, Nodaway, Platte and Thompson. The region offers a multitude of opportunities for fishing in public lakes and ponds, small streams and rivers.

The Northwest Region is home to unique geologic features and natural communities. Squaw Creek National Wildlife Refuge in Holt County is a refuge and breeding ground for migratory birds and other

wildlife. As many as 475 bald eagles have been sighted on the refuge in winter. Remnants of the glaciation that once existed are seen in the boulders and pebbles that have been collected from the area's fields. Ranging in size from a baseball to a Volkswagen Beetle, these rocks were carried from Canada and northern states by ancient glaciers. The glaciers also deposited a fine glacial flour or dust that was later caught by winds and formed dunes known as loess hills. These loess hills provide the ideal condition for one of the rarest natural communities, the dry prairie.

Winds still sweep northern Missouri — the area is home to the first wind farm in the state and today there are several in the region.

Two agricultural extension research facilities, Graves-Chapple and Hundley-Whaley, help meet the regional needs of agricultural producers and natural resource managers by conducting research and offering demonstrations on best practices.

MU Extension continues to make a difference in the lives of people of the Northwest Region by providing access to resources they need to grow their futures.



Contents

On the cover

Left, Northwest Missouri, home of the strongest winds in the state, has experienced most of the state's wind turbine development.

Top right, Construction engineer Floyd Simms founded St. Louis-based Simms Building Group in November 2003. When the construction economy hit a downturn, Simms turned to MU Extension's Small Business Technology and Development Center in St. Louis for help. Today Simm's business is thriving, and is nearing completion of The North Sarah Street

Redevelopment project — a four-block site in midtown St. Louis. It's slated for completion by July 2012.

Center, Learning to make pizza dough is one of the many activities in the wide-ranging courses offered by MU Extension's Osher Lifelong Learning Institute. Many over-50 adults enjoy learning for the pleasure of learning, without homework or examinations that come with traditional academic courses for credit.

Below right, 4-H'ers participate in team activities that teach leadership skills. 4-H programs focus on helping young people meet key developmental needs. National studies show that active 4-H members excel in leadership, have higher educational goals, and have fewer unhealthy behaviors than peers who are not in 4-H.

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The FY 2011 annual report features MU Extension's Northwest Region. Extension programs play a vital role in building a thriving regional economic infrastructure while providing a foundation for an educated, healthy population. Read more about this region on Page 2.

Gold text boxes in this report show how MU Extension makes a positive difference in Northwest Region communities.

Message From the Vice Provost

It has been a difficult year for Missouri citizens, with unemployment rates hovering between 8 percent and 9 percent. Yet, Missourians are resilient, and University of Missouri Extension, with a presence in every county, is helping them to be so.

MU Extension specialists are assisting innovators in bringing new technologies to market; providing educational opportunities to build a stronger workforce; and sharing tools and knowledge that enable businesses, farms, families and communities to rebuild the economy and improve quality of life. MU Extension's educators are integral members of their local communities, providing knowledge and resources that prepare those communities to make the best decisions possible given local assets, challenges and opportunities.

Our programs in business development, agriculture, community development, 4-H, nutrition and health, and continuing education bring meaningful, practical education to Missourians. Here is just one



Michael D. Quart, vice provost and director

vital example: When natural disasters, including the tornado in Joplin and flooding in the Northwest and Southeast left devastating paths of destruction, MU Extension connected those in need with resources to help. MU Extension was there when disaster struck and remains there to help families and businesses get back on their feet.

I am proud to note that in FY 2011, MU Extension faculty recorded 1,898,104 contacts with customers. Our continuing education programs had 73,332 enrollments. Thousands of additional contacts took place through our comprehensive website: extension.missouri.edu.

In this year's annual report, we bring you highlights from the Northwest Region, information about our organizational changes, and examples of MU Extension's contributions to job creation for Missourians.

Thank you for your support of MU Extension. We look forward to our continuing relationship with you and our partners from across the state.

Michael Quart
Vice Provost and Director

For the first time since the program's inception, clients of the Business Development Program achieved more than \$1 billion in economic impact for Missouri during FY 2011.

The MU Extension Business Development Program helps grow Missouri's economy.

In FY 2011, the program helped clients

- start 265 new businesses,
- create or retain 16,143 jobs,
- increase sales valued at more than \$515 million,
- acquire more than \$204 million in new financing for their companies,
- pursue investment efforts in research and commercialization leading to \$8.4 million in research grant awards, and
- win 2,760 local, state and federal government contracts totaling more than \$467 million.

The program's statewide impact included business counseling to 3,096 clients/companies, business training and conference programming to 14,111 participants, and more than 7.89 million website page views.

Missouri needs the infrastructure, technical assistance and tools to grow the companies of tomorrow.



Columbia restaurateur Jina Yoo opened her Asian Bistro in 2007 after seeking business counseling from Virginia Wilson at the MU Extension Small Business Technology and Development Center. Jina plans to open a second restaurant in Kansas City later this year.

This objective is supported through the program's MoFAST technology commercialization initiative by helping entrepreneurs access ideas for new products and tap into university expertise and research for market development. The program helps entrepreneurs get grants and awards to fund research and development of innovative ideas.

In FY 2011, the Missouri Southern State University SBTDC responded to the devastating May 22 tornado that destroyed much of Joplin by helping establish the emergency Business Recovery Center. Specialists from around the state worked week-long shifts to help owners and managers of local small businesses affected by the devastating storm.

In June, the Missouri River threatened to flood downtown Parkville, a small community north of Kansas City. In response, the Business Development Program coordinated an emergency response meeting for more than 40 local business owners. Representatives from local, state and federal agencies fielded questions and offered solutions to potential emergency situations.

The Missouri Procurement Technical Assistance Center (MO PTAC) helps businesses — including small, disadvantaged and women-owned firms — in obtaining federal, state and local government contracts. Specialists help clients identify opportunities and understand the government contracting process so they are able to offer their goods and services to the many government offices and agencies that depend on private sector supply.

The Missouri Environmental Assistance Center (MoEAC) is Missouri's pollution prevention center. Working with the MU College of Engineering, MoEAC helps businesses with environmental compliance, energy efficiency and waste reduction.

The Business Research and Information Development Group (BRIDG) provides both applied and secondary research and evaluations for Missouri's small business and entrepreneurial community.

The Missouri Business Resource Library is an online collection of documents and links for small businesses. Topics include business startup, management, finance, marketing, legal and regulatory factors, as well as reference tools and industry-specific information.

In FY 2011, Human Environmental Sciences Extension faculty reached over 500,000 Missouri citizens in all 114 counties with programs in housing, personal finance, relationships, nutrition, health and physical activity.

Human Environmental Sciences Extension provides face-to-face, Web-based and Internet-based education to Missourians to help build stronger futures and live healthier lives.

Housing and Environmental Design state and regional specialists provide information and expertise to Missouri consumers on relevant housing topics including homebuyer education, home renovation and repair, healthy homes, rental housing, energy efficiency, green building, housing in community development, and aging in place.

Alternative Energy and Weatherization and Saving Americans Valuable Energy (S.A.V.E.) programs show consumers how to weatherize a home and provide simple, do-it-yourself, energy-efficient modifications. These programs have



First-graders enjoy some of the local apples provided to their elementary school. Programs like Missouri Farm to School are helping connect local schools to local farmers to give students more access to fresh fruits and vegetables in the cafeteria.

become an integral part of housing education programs statewide.

The popular Successful Aging/Aging Well program provides information and resources on successful aging — including physical health, memory building, stress management and humor — to help older adults lower their risk of disease and disease-related disability, improve mental and physical function, prepare for social role changes and remain engaged in life.

The Missouri Taxpayer Education initiative helps lower-income Missouri families with free tax prepa-

ration. In FY 2011, 3,800 tax returns were completed, resulting in \$4,352,633 being returned to Missouri taxpayers.

Building Better Child Care workshops continued efforts to improve child care in Missouri. A well-prepared and educated child care workforce is essential for families' workplace success and children's healthy development.

Focus on Kids and Focus on Kids Online help Missouri's separating and divorcing parents. After taking the Focus on Kids program, parents are more likely to work cooperatively for the sake of their children. This leads to more children being raised in healthy, low-conflict environments — reducing the need for community health services for children of divorce.

Stay Strong, Stay Healthy is a 10-week strength training program for older adults — teaching that exercise helps keep the body and mind functioning at its best. Regular strengthening exercises help older adults build muscle and increase bone density, thereby helping to prevent frailty and osteoporosis. Over the 10 weeks, participants learn exercises to improve strength, flexibility and balance. After the 10 weeks, participants continue the strength training program in the comfort of their own home or with a group.

The institute offers three Class A-certified, 600-hour basic training academy classes that exceed Missouri's minimum requirements for peace officer certification. On average, 90-95 percent of academy graduates are hired within the first six months of completing the program.

The Law Enforcement Training Institute (LETI) develops and provides state-of-the-art training and education programs to law enforcement practitioners and to civilian professionals and laypersons.

For 63 years, the institute's faculty and affiliated professionals have provided basic pre-service and specialty in-service instruction to both law enforcement academy students and veteran officers who serve in local, state and national public safety. Many graduates go on to become certified to train others in their respective departments.

During FY 2011, LETI served 504 students from 46 Missouri counties and the City of St. Louis, as well as 434 students from 38 other states, Washington, D.C., and Australia.

LETI offers three Class A-certified, 600-hour



An institute training session culminates with practical exercises including a building search using volunteer role-players.

basic training academy classes that exceed Missouri's minimum requirements for peace officer certification. Modeled after a real police department structure, the academy participants are assigned a squad, squad leader and chain of command. Every lesson is taught by an expert who has spent his or her career performing in the field. The entire institute is dedicated to developing excellent, well-rounded officers who are leaders in their respective areas.

On average, 90-95 percent of academy graduates who are actively seeking a law enforcement career are hired within the first six months of completing the program. For the 14th straight year, LETI's

Basic Recruit Academy graduates scored within the highest top three basic training academies on the Peace Officer Standards and Training state licensing examination for certified Missouri peace officers.

In FY 2011, LETI graduated 82 new recruits from the basic training academy. In addition, the institute provided continuing education courses for 538 law enforcement professionals through more than 30 public safety professional education programs, including firearms instruction, drug enforcement, controlling domestic violence and combating racial profiling.

The institute continues to increase the proficiency and prevalence of animal welfare professionals nationwide through its renowned face-to-face National Animal Cruelty Investigations programs, which offer a combination of specialized veterinary and law enforcement training. More than 1,000 agencies in the U.S. and Canada have sent members to attend the programs since 1990. In FY 2011, the faculty held 15 animal cruelty investigation schools and workshops in eight states, attended by 284 federal, state and local animal cruelty officers, humane society investigators, police officers and sheriffs' deputies, attorneys, shelter managers, volunteers, administrators, state and local abuse investigators and pet enthusiasts.

MU Nursing Outreach provided professional development programs for 2,830 nurses and health care providers. Nurses from 79 Missouri counties attended.

Keeping Missouri nurses up-to-date with the knowledge and skills they need to effectively provide care and fully participate in the state's health care efforts is a primary goal for the MU Nursing Outreach office. The office serves a predominantly rural health care audience with high-quality, affordable continuing education programs using face-to-face, Web-based and telecommunication delivery methods.

Alone and in conjunction with a number of health care partners, MU Nursing Outreach provided professional development programs for 2,830 nurses and other health care providers. Nurses from 79 of Missouri's counties attended professional development programs sponsored by MU Nursing Outreach.

With the aging of baby boomers and the fact that we are living longer, high-quality, safe and effective care for our aging population is paramount. Well-prepared nurse leaders can exert a powerful influence on the quality of life and care for Missouri's seniors. However, an insufficient number of competent nurse leaders, along with an unacceptably high turnover rate



Nurse Jessica Taylor visits with a patient at Ellis Fischel Hospital in Columbia. A goal of Nursing Outreach is improved patient care through developing nursing leadership skills and encouraging evidence-based practices.

among RNs in long-term care settings, can have a dire outcome. This is especially true in Missouri, where not only are there more seniors than the national average, but there is also a decline in the status of seniors' health and long-term care. The high nursing turnover in long-term care is a direct result of the gap between what is expected of nurse leaders and their ability to meet these demands. To help bridge the gap, MU Nursing Outreach offered its fourth year of the MU Leadership Development Academy for Registered Nurses in Long-Term Care. The academy is designed to prepare nurse leaders for Missouri's nursing homes. To date, 126 RNs have graduated from the academy.

Graduates of this innovative and evidence-based

continuing education leadership program report increased confidence in their ability to perform leadership skills and in their transformational leadership practices. They also report positive changes in self-concept and how they view themselves as leaders. At 6-18 months after graduation, the retention of graduates remaining with their original employer — many in rural and underserved areas — ranged from 72 to 94 percent.

As nursing becomes more science-based, the front-line nurse is more crucial to successful implementation of research into practice. Although most nurses want to incorporate the latest research into their practice, it is a challenge because they are already stretched so thin as they focus on actual patient care. Often, there is little time for keeping aware of the latest evidence. To help front-line nurses, MU Nursing Outreach offers Evidence-Based Practice for the Frontline Nurse, a one-day educational program designed to instill a passion for evidence as a way to deliver the safest, most effective and highest quality nursing care possible. The focus is not on doing research, but rather on how staff nurses can discover and use the latest evidence to guide their everyday practice. They are encouraged to ask "Why?" and "Where's the evidence?" as they carry out their daily responsibilities. In FY 2011, 161 staff nurses from hospitals throughout Missouri and five other states attended.

Community Development

Marc Linit, PhD, associate dean, and Mary Simon Leuci, EdD, program director and assistant dean, College of Agriculture, Food and Natural Resources extension.missouri.edu/cd

Program participants leveraged \$39.6 million for their communities — and 360 took on new leadership roles; 92 community and organization plans were implemented and 588 projects initiated.

Missouri was heavily impacted by the Missouri and Mississippi rivers' flooding and severe weather events. In FY 2011, Community Emergency Management partnered with other agencies to start the Business Recovery Center in Joplin, serving more than 500 business owners. The Multi-Agency Recovery Center used social media extensively, reaching and serving 499 tornado victims. Extension took the lead in creating a collaboratively managed Facebook presence — Missouri Flood Info (<http://facebook.com/MoFloodInfo>) — that has become the source of timely information and a means for multi-agency coordination of information for those affected.

Community Development Academy (CDA) volunteer hours for communities increased — conservatively reported at 21,370 hours worth \$396,841. One academy participant commented in a 2011 survey, “I have used CDA information to develop a volunteer corps for the county. About 75 people have signed up to participate



Mitchell Johnson (left), a graduate from Leadership Trenton, receives an award from Kathy Smith, mayor of Trenton, and Ralph Boots, community development director of Trenton. Leadership Trenton is a locally tailored EXCEL program — one of more than 40 MU Extension EXCEL programs statewide. Communities investing in an EXCEL program see new and younger people running for public office, more public involvement and better-functioning, inclusive community governance.

so far.” Nonprofit organizational development programs increased capacity for economic activity and contributed to healthier, productive workers. One 18-month community mediation facilitated by MU Extension led to a sustainable working relationship between two interdependent nonprofits, preserved 20 jobs, added 26 jobs, sustained increases in annual contract revenue of \$135,000, and launched a new enterprise.

Research shows MU Extension Community Leadership Development programs produce engaged, new and diverse rural and urban leaders. On average,

each local program conducted in the last three to five years resulted in 10 community projects. Last year, MU Extension's role in the development and delivery of 28 community leadership development programs added to the outlook for Missouri's future. Programs that encourage citizens to participate in planning have focused on health, healthy lifestyles, community betterment, and development of community master plans. For example, after several years of work to develop the Warsaw Farmers Market, the program surveyed vendors, who reported sales during 2010 of about \$8,320, indicating that nearly 62 percent of this was profit for them. Across the state, Herculaneum secured the option for a port on the Mississippi River. It is estimated to bring in hundreds of jobs — a key to area growth.

ExCEED leveraged a grant from the Small Business Administration to take the Mississippi River Hills Region and the Ozark Heritage Region to the next level of development for adding and expanding businesses. Mississippi River Hills Region success included: a spring conference for business training, five businesses adding a new product line or service, five new businesses developed, and 10 businesses expanding. Brunswick's community development planning saw four new businesses start, along with a revitalization and funding of downtown improvements. The community now has a general sense of moving forward and working together, and a feeling of accomplishment and hope.

The Osher Lifelong Learning Institute delivers quality courses designed for the interests and lifestyles of the over-50 adult.

In FY 2011, the institute conducted 116 educational events with a total attendance of 2,228.

Osher Lifelong Learning Institute at MU delivers quality courses designed to complement the interests, concerns and lifestyles of the over-50 adult. What makes these students special is a strong commitment to learning. Many over-50 adults enjoy learning for the pleasure of learning, without homework or examinations that come with traditional academic curricula for credit.

Understanding that older citizens need intellectually stimulating courses guides the educational content of the Institute's courses and fulfills the mission to provide lifelong learning. Instruction is delivered by profes-



Learning to paint with watercolors is one of the many wide-ranging courses designed for adult learners at the Osher Lifelong Learning Institute. The institute is housed in the Stephens Lake Activity Center — a location that is easily accessible and has adjacent parking.



sionals who are cutting edge, active and emeritus MU research professors. In FY 2011, the institute conducted 116 educational events with a total attendance of 2,228.

Technological innovation and advances have inspired the creation of courses that address the societal changes and needs of the institute's clientele — courses such as learning about social networking and how to navigate it. Email, Facebook, blogging, and wiki software are distinctly different systems. Each offers an alternative style of communication. Courses that address these systems enable students to better understand the world in which they live, and help them use and integrate new systems of communication into their daily lives.

The technological revolution has also had great influence on the systems that organize society. In FY 2011, students learned about trends in the delivery of health care services, such as the medical home model in geriatric medicine and how rural and small town doctors have access to refined, updated medical specialism through telemedicine. Through providing such information, the institute gives the older student population a greater understanding of society's growth in these new dimensions.

In FY 2011, the institute delivered 420 noncredit business education courses to 7,901 people in all 114 Missouri counties.

The Missouri Training Institute (MTI), located in the Robert J. Trulaske Sr. College of Business at the University of Missouri, provides training and consulting services that help people improve their performance and organizations achieve success. Helping improve performance for 25 years, MTI serves customers in business and industry, government, education organizations, professional associations and other for-profit and not-for-profit groups across Missouri. “We’re in business to help you do business.”

MTI offers hundreds of workshops directed at every level of an organization. In FY 2011, 420 noncredit business education courses were delivered and 7,901 people were served, totaling 32,483 hours of instruction in all 114 counties in Missouri.

The institute continued to grow and diversify its customer base, products and services in FY 2011. MTI offered a new certificate series for managers and for the first time offered financial management training.

MTI continued to explore grant opportunities and



MU Extension’s Missouri Training Institute is located in Cornell Hall on the MU campus. Working with MU’s Robert J. Trulaske Sr. College of Business enables the institute to provide training and consulting services to improve business performance and organizational effectiveness for public, private and not-for-profit organizations.

at the same time focused on expanding its fee-based services. The institute expanded its role in the Trulaske College of Business’ professional development program by delivering training for undergraduate students enrolled in the program.

MTI has long-standing partnerships with for-profit and not-for-profit organizations. These customers were served with a variety of training products including a supervisors certificate program for MU supervisors and

others from outside the university, Society for Human Resource Certification Programs, and a new Management Development Certificate series. MTI also offered training on a variety of business topics.

Training programs include subjects such as human resource management, supervision, management, leadership, team building, effective decision-making, generational differences and business writing. The institute’s consulting services include human resources, strategic planning, board development and facilitating board retreats.

MTI provided consulting services to Strategic Planning for Missouri Ethics Commission, the Missouri Attorney General’s office, and MU Web Communications. They provided executive coaching services for the Missouri Attorney General’s staff, Boone Hospital, ABC Labs, the Missouri Ethics Commission, and the MU School of Health

Professions.

Many educational institutions, including the college of business and other departments across the MU campus, received training and other services. MTI staff also taught undergraduate courses in management and provided administrative support for the Career Services Business Fair, Accounting Fair and Smith Forum.

Expansion of The Missouri Beef Project, a new programming effort, offers the potential to increase the value of steer calves by \$100 per beef cow per year. For Missouri, this represents \$200 million of added value annually.



University of Missouri weed scientist Kevin Bradley examines a waterhemp weed previously sprayed in greenhouse tests. This weed shows strong resistance to the herbicides used and represents a significant problem in farm fields. (Roger Meissen photo)

MU Agriculture and Natural Resources Extension program

is built upon Missouri's diverse array of natural and human resources and its sophisticated business base. The central goal of the program is to improve quality of life, enhance the economic viability of Missouri enterprise and, at the same time, protect the environment and the state's natural resources for all Missourians.

In FY 2011, Missouri producers invested more than \$5 million in pasture improvements such as paddock fencing and watering facilities as a result of their participation in one of the 32 two-day grazing workshops offered during the year. Expansion of The Missouri Beef Project, a new programming effort,

offers the potential to increase the value of steer calves by \$100 per beef cow per year. For Missouri, this represents \$200 million of added value annually. More than 3,000 producers attended educational programming on winter feeding systems for beef cattle. Use of the Swine Nutrition Guide formulator has resulted in a savings of more than \$36 million in feed for pork producers. Missouri's Third National Pasture-Based Dairy Conference drew 275 producers and professionals. Educational efforts in Missouri by the Pasture-Based Dairy Program have significantly increased investments in these systems to more than \$1 billion

during the past five years.

The Missouri Value Added Center helped various entities develop business and operational plans with an estimated impact of \$9.2 million and the addition of 186 jobs. Half of the participants in Annie's Project reported they will develop and implement whole-farm risk management plans for their farms. A total of 118 people participated in the three-session workshop on estate planning offered at five Missouri locations through interactive video. In addition, 265 lenders attended the 13 MU Extension Ag Lender Seminars offered statewide.

Based on the educational efforts of the Cotton Pest Management Team, Missouri cotton producers have increased their reliance on professionals to scout for pests

and on the pest survey reports when making pest management decisions. A recent survey indicated that Missouri cotton farmers realized a savings of \$10 million through this program. The 180 crop advisers who attended the 2010 Crop Management Conference influence decisions affecting more than 9.5 million acres, and will have an impact on production efficiency, economic development and environmental quality.

The Manure Management Team, national leaders in the development of Web-based nutrient management decision support tools, trained more than 600 producers in the use of tools such as the Animal

MU grad student Zach Callahan uses a hacksaw to harvest meat from a hindquarter of beef as Carol Lorenzen, MU associate professor of meat science, explains the value of different cuts of meat to students at MU Extension's three-day Show-Me Beef University. The workshop helps producers and those in the beef industry understand the aspects of creating quality cuts of beef for consumers. (Roger Meissen photo)

Feeding Operation Site Assessment Tool and Business Environmental Risk Management. The Missouri Woodland Steward Program has reached 638 landowners, who are responsible for managing 107,800 forested acres in Missouri.

Master Gardeners contributed over 44,000 volunteer hours and contacted nearly half a million Missourians to help MU Extension in benefitting horticulture in their communities.



Engineering Continuing Education

Mary A. Myers, PhD, director

FY 2011 saw the expansion of the distance education mission of Engineering Continuing Education. Six engineering courses were offered online for the first time. Engineering's new instructional designer developed a standardized template for large-enrollment classes. This template stretches the capability of Blackboard, MU's course management system, and resolves issues of usability and accessibility. It provides a well-designed platform to leverage a professor's content expertise without requiring Blackboard expertise.

The Pollution Prevention (P2) class focuses on applied engineering methods and tools to reduce or eliminate waste at its source. In today's economy, P2 strengthens competitiveness by engineering efficiency improvements related to the use of raw materials, energy, water and natural resources. Nine students who completed the P2 class were selected as Mizzou P2 interns. Interns receive a 10-week paid industrial position to apply their training. During the summer, nine P2 interns, placed in nine Missouri locations, implemented annual savings of \$480,406 for five companies and four municipalities through applied engineering to reduce or eliminate waste at its source. Over the four years that P2 interns have been placed in Missouri companies, over \$1 million of annual savings has been realized.

In collaboration with Spirit Technologies in Saint Louis, Engineering Continuing Education is developing an online class for the U.S. Department of Energy's (DOE) Home Energy Score (HES) program. Begun in 2011, the program allows a homeowner to compare a home's energy consumption to that of other homes. A Home Energy Score Qualified Assessor (HESQA) collects energy information during a home walk-through and then scores that home on a scale of 1 to 10 using the HES software. The National Association of Certified Home Inspectors estimated 500,000 home energy scores would be completed in the first 12 months nationwide. In order to use the Home Energy Score Tool Software and generate a Home Energy Score, an assessor must be certified and pass the U.S. Department of Energy's test, as well as have software training. The HESQA course rolled out with the DOE weatherization program in fall 2011. It is structured to enable a student to complete the course online and begin working as a contractor or apply for a position working for the Weatherization Assistance Program as a Weatherization Energy Auditor in one of 900 locations nationwide.

4-H Center for Youth Development

Ina Metzger Linville, PhD, director

4h.missouri.edu

Studies show young people in programs like 4-H are 70 percent more likely to attend college and increase their earning potential to \$2.01 million over their lifetime. If just one-third of our club members completed a bachelor's degree, this would create \$14 billion of earning potential.



Tyler Lappe, right, and other 4-H'ers work to pave a trail with mulch at the Cedar Creek Therapeutic Riding Center during the 2011 4-H Congress. This volunteer service project was just one of many learning experiences for those attending. (Roger Meissen photo)

For more than a century, 4-H programs have helped young people learn leadership, citizenship and life skills. 4-H programs focus on helping young people meet key developmental needs.

Continued findings in national studies have an important message for parents, community leaders and educators: Active 4-H members excel in leadership and have higher educational goals. In addition, they report fewer unhealthy behaviors such as drinking, smoking and other drug use.

In FY 2011, Missouri 4-H reached young people in every county of the state. 4-H youth development specialists and other extension team members worked with volunteers and community leaders to reach one

in 14 (315,409) Missourians ages 5 to 18. These young people participated in a 4-H educational program, the 4-H club program (a yearlong educational experience that includes learning by doing in projects, community service, and family involvement), 4-H school enrichment (short-term educational experiences that enhance learning in the classroom), special interest programs, camps or child care programs.

In 2011, the Missouri 4-H program enrolled 10,227 volunteers. Missouri 4-H volunteers donate an average of 6 to 10 hours per week, or 72 to 120 hours annually. The Independent Sector, a leadership network for non-

profits, values a Missouri volunteer's time at \$18.70 per hour. Accordingly, Missouri 4-H volunteers are providing \$13.8 million to \$23 million in volunteer services annually.

Every year, the Missouri 4-H program links thousands of young people, parents, volunteers and professionals to MU. Last year, 3,993 persons visited the MU campus for 4-H educational events and camps.

The 4-H Youth Futures program helps make college an achievable goal for underserved youth. The on-site campus experiences, coupled with a caring adult mentor, motivate young people and help them navigate the steps of getting into and staying in college.

Missouri 4-H is addressing America's critical need in science, engineering and technology with a national initiative to

engage more young people in 4-H Science, Engineering and Technology programs. 4-H members report an increased interest in science at a rate three times their non-4-H peers. Interest in science is a predictor for young people to choose science-related careers.

4-H provides a great return on investment. For every \$1 of public resources invested in Missouri 4-H, the programs leveraged \$3.30 to serve young people and families statewide. According to a Carnegie report, the value of youth development programming provided by MU Extension 4-H faculty and staff is \$36,859,250, or a return of \$5.35 on the public investment.

The MU Conference Office delivered 93 conferences that generated \$4.8 million in gross revenue. These events drew more than 24,000 people, of which 15,077 were Missourians.

The MU Conference Office (MUCO) has contributed to the outreach mission of the University of Missouri by bringing conferences to citizens for 45 years. The office provides high-quality, professional, full-service meeting management for a variety of noncredit educational programs, such as conferences, workshops, seminars and symposia. Whether a meeting is hosted on the MU campus, elsewhere in Missouri or anywhere in the world, the office's professional staff helps create the best learning environment for participants. A sampling of conferences in FY 2011 included teacher training, natural areas, advancing renewables and greening homes.

The MU Conference Office's clientele is expanding and includes university academic and administrative departments; state and federal agencies; private, for-profit and public organizations; faith-based groups; youth camps; and athletic groups. The conference office staff is involved in the complete management of all details from budgeting, contract negotiation, menu selection, seating arrangements, name badges and proceedings, to final reconciliation of income and expenses.

The conference office excels at organization, attention to detail, and flawless execution providing enjoyable quality experiences.

In FY 2011, MUCO collaborated with eight University of Missouri colleges and schools, 22 administrative units, 12 federal and state agencies, and 34 associations and entities to deliver 93 conferences that generated \$4.8 million in gross revenue. These conferences were attended by 24,001 people, of whom 15,077 were Missourians.

The office again was certified as a One-Stop Shop in 2011 by the Association of Collegiate Conference and Event Directors — International (ACCED-I). A certified one-stop shop follows the best practice of “one contact, one contract, one bill.”

Campus-based economic impact studies conducted by ACCED-I confirm that university conferences and events are substantial contributors to both campus and local economies. Studies show that the level of satisfaction attendees have with their experiences on campus determines whether they or their families will return. The university hosted 13 on-campus and 23 combined city-campus conferences that contributed

to \$1,149,841 service dollars for campus units and returned \$581,504 in on-campus revenue.

In addition to campus economic impact, the Columbia Convention and Visitors Bureau estimates that every dollar spent by a visitor to Columbia turns over 1.9 times in the community. Currently, a Columbia visitor spends \$145 per day when staying overnight and \$65 a day without an overnight stay. The MU Conference office held 22 conferences in Columbia hotels. Those conferences, combined with the previously mentioned 23, brought \$563,209 to the community from food, beverage and rental and lodging expenditures. This does not include money visitors spent independently of the event.

MU Division or Program	Number of Activities	Attendance Total	Indiv. Hours Instruction	Student FTE*
Arts and Science	1	106	25	11.8
Agriculture, Food and Natural Resources	19	5,606	391	355.5
Education	1	434	16	30.1
Engineering	4	378	111	26.8
4-H Youth Development	2	418	45	27.7
Fire and Rescue Training Institute	2	1,911	52	119.7
Human Environmental Sciences	2	232	9	5.4
Human Environmental Sciences Extension	1	100	32	14.2
Journalism	3	237	37	12.2
Medicine	2	497	36	54.2
MU Administration	23	5,690	401	345.9
Osher Lifelong Learning Institute	5	728	10	5.0
Veterinary Medical Extension and Cont. Ed.	1	112	7	3.2
Veterinary Medicine	1	53	12	2.5
Vice Provost Extension	4	199	46	8.9
Conference Office-hosted	22	7,300	518	638.0
Conference Office Totals	93	24,001	1,748	1,661.1

* Student FTE = Student Full-time Equivalent

In FY 2011, Veterinary Medical Extension and Continuing Education offered eight events for graduate veterinarians and provided speakers for 46 meetings across the state. More than 2,900 people attended these meetings.

The Veterinary Medical Extension program provides education that builds partnerships among livestock producers, companion animal owners, veterinarians, MU Extension specialists, university faculty, allied industries and the public.

MU Extension's veterinary medical faculty members develop continuing education and outreach efforts in partnership with extension specialists, as well as university faculty and researchers using economic, scientific and marketing expertise. In FY 2011, the program offered eight continuing education events for graduate veterinarians seeking continuing education credit to validate their veterinary licenses. Team members also spoke on a variety of topics at 46 different meetings across the state. More than 2,900 people attended these meetings. In addition, team members were involved in five research projects that address issues important to animal agriculture and public health in Missouri.

Issues such as increasing input costs, competition

for farm ground and increasing regulations are putting enormous pressure on livestock operations. As a result, operations are either downsizing or going out of business. One example can be seen in Missouri's cattle industry, the state's largest livestock sector. Historically, Missouri has held the number two position in the nation for cow/calf numbers. However, Missouri fell to number three in 2010, and experts predict that it may fall to number four in the near future.

In response to this situation, Veterinary Medical Extension faculty determined that livestock producers must have access to information that directly impacts the profitability of their operations. This information can help to improve the sustainability of the operation and quality of life for farmers. In the past year, faculty worked with livestock producers and provided them with information that can help them reduce input costs and increase revenue for their operations. In addition, faculty conducted research

- in estrus synchronization to improve cattle reproductivity, a major driver of profitability in cattle operations;
- to expand marketing opportunities for small- and medium-sized beef producers;
- to increase biosecurity measures in swine operations, reducing the introduction of costly diseases; and
- to improve pre-weaning health in dairy calves.

Team members also provided continuing education programs and spoke at four events held for veterinar-

ians, thus improving livestock care.

Another pressing issue is in the area of food production, processing and preparation. Today, with only 2 percent of citizens involved in agricultural production — and most being three to five generations removed from farming — there is a disconnect: Most Americans are not fully aware of the processing steps between farm and grocer, environmental regulations mandated by government agencies, or the financial investment required to produce and transform grains, fruits, vegetables and livestock into food.

The narrative of food in America is changing. On one hand, farmers pride themselves on providing the safest, most abundant food supply the world has ever known. On the other hand, consumers question the environmental, social and scientific merits of today's agricultural production systems. The impact is that consumers are becoming wary and critical of conventional food production, whereas agriculture struggles to tell its side of the story to consumers. This leads to frustration and distrust on both sides.

In response, Veterinary Medical Extension faculty and other MU faculty are developing a Food Dialogue Center. The center will serve as a resource for consumers who want scientifically based information about food and food production. In addition, the center will promote dialogue between consumers, producers and the food industry, thereby increasing communication and trust among the various stakeholders.

The institute is known for bringing training to the student. Faculty, staff and equipment traveled over 211,500 miles delivering training and courses in 82 Missouri counties, with participants coming from all 114 Missouri counties.



In the Swiftwater Rescue Training class, FRTI students participate in several hands-on learning scenarios, including the “live bait” drill where a rescuer jumps in to secure a victim being swept downriver by swift currents. Training took place on Six Flags St. Louis’ Thunder River where students could practice swift-current rescue in a controlled setting.

As Missouri’s leading fire and emergency response training resource for over 79 years, the University of Missouri Fire and Rescue Training Institute (MU FRTI) provides comprehensive continuing professional education training to Missouri’s fire service and emergency response personnel. For firefighters and other emergency first responders to be adequately prepared to protect citizens from the ravages of fires and other emergency situations, the responders must receive realistic, effective training.

Training is conducted across the state in local communities, as well as through annual and regional fire schools. In 2011, MU FRTI trained 15,173 fire and emergency service personnel, providing over 243,000 instructional hours of training. MU FRTI conducted 639 continuing professional education courses delivered through a variety of methods to make

courses as accessible as possible.

Missouri has 896 fire departments and/or fire protection districts that are served by nearly 22,500 firefighters. They protect a population of 5.8 million, dispersed over 68,886 square miles. On average, there are 2.6 firefighters for every 100 persons in the state. By geographic distribution, the state averages one firefighter per 3 square miles. Missouri continues to be protected mostly by volunteer firefighters, with about 70 percent of the state’s fire service being volunteer.

In addition to training Missouri’s fire and emergency responders, MU FRTI plays a significant role in aiding

emergency managers, disaster workers and citizens through preparedness training and support during disasters. Missouri had three major disaster declarations in FY 2011. The Community Emergency Management Program (CEMP) was a key partner in the aftermath of the deadly Joplin tornadoes and continues to work with partners on the long and arduous recovery process. The diverse nature of CEMP programming included teaching the Community Emergency Response Team (CERT) course and Teen CERT programs, developing county-based agriculture emergency plans, participating in nuclear power plant exercises and using solar-powered wildlife cameras as farm biosecurity surveillance. In addition to

training many of the fire and emergency responders on the front lines of the tornado in Joplin, MU Extension’s Fire and Rescue Training Institute, in cooperation with the Missouri Department of Homeland Security, provided training for the Incident Management Team personnel. These teams provide the overall, top-level command and control functions for a disaster’s search, rescue and response efforts.

MU FRTI also worked on the national Electric Vehicle Field Guide project and the development of a Hazardous Materials Worker Health and Safety Training program curriculum.

A major effort of the Labor Education Program this year was to disseminate Missouri-based research on how public policy impacts the Missouri labor market. More than 1,200 Missouri workers and community leaders participated in nine locations.

The MU Labor Education Program works with members and leaders of a variety of workplace-based organizations across Missouri to help them develop skills to contribute to their organizations, act effectively in the workplace, and be informed and active participants in their communities.

During an era of severe economic crisis and rapid changes in the labor market, the challenges of effective leadership are expanding dramatically. The research, curriculum development and teaching efforts of Labor Education faculty aim to meet the immediate and emerging educational demands of leaders of complex organizations. In FY 2011, 35 courses and conferences resulted in a total enrollment of 2,535 participants.

Economic instability in the United States poses a significant teaching and research challenge to the MU Labor Education Program. As the labor market struggles to recover from the economic crisis, tradi-

tional educational goals of leadership and organizational development remain an important focal point of labor education programming. However, the need is also growing for strategic analysis of employment trends, labor market changes and the impact of public policy developments on organizational goals and leadership development.

A major effort of the program this year was to disseminate Missouri-based research on the connection between public policy initiatives and their impact on the Missouri labor market. More than 1,200 Missouri workers and community leaders participated in a series of public policy research presentations held in nine locations across the state. Participants used Missouri-specific data to examine

- the relationship between current policy initiatives and employment trends,
- occupational and industrial income trends,
- cost of living, and
- the labor market status of Missouri compared to its neighbors and comparable states.

During FY 2011, the MU Labor Education Program led a collaborative network of faculty from MU Extension and seven MU schools and colleges as they examined the impact of changes in federal health care policy on Missouri citizens and institutions. The result will be the development and delivery of a series of conferences and resources to address the impact of the Patient Protection and Affordable Care Act of 2010 on Missouri citizens involved in employer-sponsored

health care plans, medically underserved Missouri communities, and low-income, disabled and other high-risk citizens.

For more than 40 years, the program has worked with United Steelworkers District 11 leaders to deliver high-quality educational programs for its local unions through an annual summer institute.

During FY 2011, the Labor Education Program delivered the 13th annual Romeo Cobeil/Gilles Beau-regard Summer Youth Camp. The camp helps teens better understand the role of organized labor in society by having them form their own union and negotiate a contract with camp counselors.

In addition, for over 10 years the Labor Education Program has worked with the joint apprenticeship and training programs of various unions and contractor associations in the construction industry to develop and deliver craft-specific labor history and other classes for apprentices, as an important part of their job training and development. The program also continued its long-standing collaboration with the UMKC Department of Economics and UMSL Arts and Sciences Continuing Education in the delivery of the credit Labor Studies Certificate Program.

In FY 2011, more than 1,300 programs reached 22,000 health care professionals across the state and around the world.

MU Extension's Office of Continuing Medical Education helps improve the health of Missourians by providing education and programs to increase doctors' scope of diagnosis and health care treatment options. Continuing Medical Education programs provide learning opportunities for health care practitioners that incorporate the most up-to-date research and clinical guidelines available. In FY 2011, more than 1,300 programs reached 22,000 health care professionals across the state and around the world.

The office combines various provider segments of the health care industry, networking professionals in support of an international base of health care education. The Continuing Medical Education, as liaison between generalists and specialists in various fields of medicine and research,



MU Extension faculty received the Extension Teamwork Award in 2011 for collaborating as an interdisciplinary, cross-campus team to develop Taking Care of You: Body - Mind - Spirit, an 8-week program offering practical, effective strategies for dealing with life's challenges. From left to right, Linda Rellergert, regional nutrition and health specialist in the East Central Region; Molly Vetter-Smith, state health education specialist; Susan Mills-Gray, regional nutrition and health specialist in the West Central Region; Vera Massey, regional nutrition and health specialist in the Central Region; and Lynda Johnson, regional nutrition and health specialist in the West Central Region. The award was presented by Michael Quart, vice provost of MU Extension.

promotes awareness and understanding of the latest medical procedures and techniques, including those ever-increasing standards of patient care implemented at the MU School of Medicine and University of Missouri Health Care.

MU Extension's Continuing Medical Education brings educational opportunities to doctors. They can learn firsthand about research findings from the MU School of Medicine, as well as other national and international providers.

Working cooperatively with the Missouri Telehealth Network allows the office to extend its support into rural communities around the state.

Events broadcast through the network allow rural health care providers access to ongoing education that would otherwise be inaccessible without considerable time, travel and expense.

The office's Health Education Program, using both the School of Medicine and the MU Extension system as a base, works to improve the health and health literacy of Missourians. The program develops, implements and evaluates both clinic-based and community-based chronic disease prevention and self-management interventions, as well as interventions aimed at improving the overall health of Missourians.

MU Extension Statistical Data

Summary of Continuing Education Noncredit Activities FY 2011

Continuing Education Unit	Number of Activities	Attendance Total	Individual Hours of Instruction	Student FTE*
Continuing Medical Education	1,324	22,848	2,186	152.0
Fire and Rescue Training Institute	639	15,173	11,660	810.4
Labor Education	35	2,535	182	23.8
Law Enforcement Training Institute	52	938	3,105	238.0
Missouri Training Institute	420	7,901	1,814	108.3
MU Nursing Outreach	74	1,620	390	36.0
Osher Lifelong Learning Institute	50	838	495	27.5
Veterinary Medical Extension and Continuing Education	8	229	48	6.3
MU Conference Office**				
Arts and Science	1	106	25	11.8
Agriculture, Food and Natural Resources	19	5,606	391	355.5
Education	1	434	16	30.1
Engineering	4	378	111	26.8
4-H Youth Development	2	418	45	27.7
Human Environmental Sciences	2	232	9	5.4
Human Environmental Sciences Extension	1	100	32	14.2
Journalism	3	237	37	12.2
Medicine	2	497	36	54.2
MU Administration	23	5,690	401	345.9
Veterinary Medicine	1	53	12	2.5
Vice Provost	4	199	46	8.9
Conference Office-hosted	<u>22</u>	<u>7,300</u>	<u>518</u>	<u>638.0</u>
Conference Office totals	85	21,250	1,679	1,533.2
TOTALS	2,687	73,332	21,559	2,935.5

This table includes noncredit activities reported through MU continuing education units and does not include contacts by cooperative extension specialists.

* Student FTE = Student full-time equivalent

** Eight other MU Conference office activities with attendance totaling 2,751 have been distributed among their related academic areas and are represented in the MU Extension unit totals in this table. See Page 15 for the summary of all MU Conference Office activities by MU division or program.

Educational Contacts* Cooperative Extension — FY 2011

Program Area	Direct Contact Total	Indirect Contact Total	Total Contacts
Agriculture and Natural Resources	99,518	160,392	259,910
Human Environmental Sciences	1,059,042	139,433	1,199,931
Business Development	38,930	516	39,446
Community Development	30,861	67,000	97,861
4-H Youth Development	146,507	154,449	300,956
Totals:	1,374,858	521,790	1,898,104

This chart includes both direct and indirect educational contacts. Direct contact occurs when participants are actively engaged in a learning process, whether in a group or individual setting, that promotes awareness and understanding of research-based knowledge and adoption of research-based practices. Indirect contact occurs when the distribution of information and resources does not meet the above definition of direct contact. This can include public events and dissemination of printed materials that deliver educational content.

*Educational contacts were calculated with newer methodology than was used in previous reports.

Graves-Chapple Research Center

Founded in 1988, the 74-acre Graves-Chapple Research Center is a collaboration between Atchison County Extension, Holt County Extension, MU Extension Commercial Agriculture Program, the University of Missouri's Agricultural Experiment Station, local agribusinesses and producers.

The site is unique in Missouri due to soil types in the area and the use of no-till planting techniques. No-till was seen as a way to reduce input costs and reduce erosion on agricultural land. Agriculture was being singled out as the major source of pollution in our nation's lakes and rivers. The concept of not tilling the soil was so foreign to most farmers that "It will not work up here" was a common refrain. Under that premise, the Graves-Chapple Farm was founded and has proven over the years that no-till is a viable, profitable and environmentally friendly farming process for northwest Missouri. (Source: Graves-Chapple Farm 2010 Annual Report)

MU Extension Increases Operational Efficiencies

MU Extension increases efficiencies, reduces administrative overhead and better integrates programs

MU Extension made significant organizational changes in FY 2011. These changes resulted in a nearly 20 percent reduction in MU Extension's budget and enabled extension efforts to focus on core missions, including job growth and economic development.

Change began when Chancellor Brady Deaton and Provost Brian Foster announced in November that MU Extension's e-learning programs would be realigned, some positions reduced and extension's role in the statewide TeleCenter Network partnership would end.

"In these difficult budget times, I think it is important to be proactive in determining where and how limited resources will be deployed. We are taking this opportunity to take charge of our future, for the benefit of the people of Missouri."

— MU Extension Vice Provost, Michael Quart

MU Extension ended its role in the 15-year statewide TeleCenter Network Partnership, which was initiated to bring education to the local level primarily through the use of interactive audio and video. MU Extension gave a one-year notice of withdrawal from the partnership in November. TeleCenters affected were in Mexico, Salem, Jefferson City, Nevada, Kirksville, Poplar Bluff, Portageville, Reeds Spring and Park Hills. More than 30 school districts, businesses, cities,



MU Extension's administrative offices are located in Whitten Hall on the University of Missouri campus in Columbia. (Roger Meissen photo)

educational institutions and other entities have served as partners with MU Extension in supporting the TeleCenters. As a result, many are still able to provide valuable services within their communities.

"Much has changed in the past 15-plus years," said Michael Quart. "Although interactive television is still an effective tool in the delivery of education, the Internet has become the predominant vehicle for delivery of and access to education at a distance and is more flexible and convenient for students. While we regret that this budget reduction will result in the elimination of 19 TeleCenter positions, MU Extension will invest in other technologies to be more accessible and responsive to the needs of extension learners throughout Missouri."

Three realignments were effective in December. The Center for Distance and Independent Study and MU Direct, which offered for-credit e-learning programs, were realigned with the MU campus. They

have merged and taken the new name of Mizzou-Online. KBIA, KKTR and KAUD — Mizzou's public radio stations — and the University Concert Series transferred to MU's Office of Administrative Services. The Missouri Film Office joined the Office of the Vice Provost for Economic Development.

Change to MU Extension's leadership structure came in the spring. "One goal of MU Extension is to focus on program positions and to further reduce administrative positions wherever possible," Quart said. "When Associate Vice Provost Debbie Robison announced her retirement, we decided this goal could be furthered by not refilling this position and by reorganizing the MU Extension leadership structure in a manner that will better integrate the entire organization."

The reorganization reduced the number of positions in the leadership cabinet — led by Quart — from four to three: vice provost, associate vice provost for programs and associate vice provost for administrative management. The associate vice provost for programs leads the extension program directors, regional directors and continuing education directors. The associate vice provost for administrative management leads budget and finance management, human resources, communications and marketing, organizational development, reporting, grant development, and extension technology and computer services.

The restructuring increases efficiencies and optimizes resources — consolidating and integrating the organization into one MU Extension.



Missouri University of Science and Technology

Missouri S&T's Office of Technology Transfer and Economic Development (TTED) and its Small Business and Technology Development Center (SBTDC) continued to expand their programs throughout the south central region of Missouri.

In January 2011, Missouri S&T opened its first building at Innovation Park – a 50-acre research park within walking distance of the campus and adjacent to Phelps County Regional Medical Center. The Technology Development Center is becoming the hub of entrepreneurial and economic development activity in the region. This facility will also house startup companies launched by faculty, students and entrepreneurs from the community.

TTED has also helped a local technology business,

Mo-Sci Corporation, in its efforts to develop and market an exciting, life-changing technology called DermaFuse — a Missouri S&T developed bioglass that can dramatically improve difficult- or impossible-to-heal wounds, particularly in diabetic and elderly patients. Mo-Sci Corporation is currently testing DermaFuse in collaboration with Phelps County Regional Medical Center to bring this lifesaving material to the marketplace. Other uses under development include bone replacement, oral health products, and veterinary treatments for large and small animals.

Plans include the launch of a regional entrepreneur club that will connect local entrepreneurs with the resources and expertise they need to succeed.

Also during the year, the SBTDC hosted several training conferences, including a Kauffman Foundation FastTrac program in collaboration with Workforce Development, which targeted displaced workers in the region. The SBTDC provided nearly 700 counseling hours to 156 distinct clients. The Procurement Technical Assistance Center (PTAC) helped 117 clients secure almost \$2 million in contracts and awards for Missouri businesses. The Technology Transfer Office received 32 invention disclosures, filed 22 patents, and executed 20 licenses and options.

University of Missouri-St. Louis

UMSL partners with MU Extension to meet the needs of residents in the St. Louis metropolitan area and statewide. Extension efforts are coordinated through the Community Partnership Project, located



on the UMSL campus.

During the past year, the Community Partnership Project neighborhood initiatives helped increase access to local and healthy foods, strengthen and support community and nonprofit organizations, rehabilitate housing and improve academic achievement in public schools.

- The new **St. Louis Healthy Corner Store Project** increased the availability of nutritious and fresh foods at local markets in St. Louis neighborhoods. Through a partnership with the City of St. Louis, neighborhood organizations and local corner stores, city residents now are able to buy healthy foods within their own communities.
- Twelve **Neighborhood Leadership Academy** graduates completed the course and returned to their communities armed with the skills necessary to develop and sustain leadership, create and implement community improvement initiatives and manage community-building organizations.

- During its second year, UMSL **Students of Service** engaged more than 400 college students in service activities in schools and neighborhoods surrounding the UMSL campus.
- **Conferences and seminars** linked residents with university resources and explored key urban issues, including creating healthy communities, fair access to financial services, and the impact of interest groups on policy change.

In addition, UMSL faculty members partnered with MU Extension on three other statewide program efforts. **The Local Government Partnership** serves as a resource through which local government officials can access quality information, help and training. The **MY LOGO** program teaches students about local government and involves them in community issues. During FY 2011, about 1,070 Missouri middle-school students participated in local government education through MY LOGO. The **Small Business and Technology Development Center** at UMSL provides training and technical assistance for new and existing businesses in the region. In FY 2011, the center offered a wide selection of seminars and workshops that were designed to serve specific needs of startup and existing businesses, as well as business counseling and business plan assistance.

University of Missouri-Kansas City

To fulfill its urban mission, the UMKC Institute for Human Development partners with MU Extension to reach into the community and build the capacity of



people and organizations to respond to community issues. Urban mission work cuts across issues related to education, transition of youth to adulthood, healthy lifestyles, employment and other issues related to community development.

The mission's goal is to reach families that traditionally have been underserved or unserved — those who are recent immigrants, from impoverished communities, or from diverse racial or ethnic backgrounds.

Capacity-building efforts help create urban environments that allow access to quality programs and services, such as the design of programs to meet the needs of urban youth. Leadership, self-determination and person-centered planning are integrated into all opportunities for urban youth. The goal is to develop curricula and programs that are sensitive to the cultural and ethnic beliefs of participants.

Access to fully inclusive environments is another major goal for urban programming. Often, people with disabilities are not included in traditional programs that build skills to help compete for education and employment opportunities. The urban mission helps people with or without disabilities build competencies

and develop a network of friends and professionals that are needed to be successful.

Urban mission work unites community leaders, young people, parents, professionals and other interested parties to plan and strategize. Forums are created that facilitate open dialogue and provide a safe place for all parties to express issues and concerns.

Three urban mission work areas were highlighted in 2011:

- **Urban Impact Teams** is an initiative that promotes research and program development to address health disparities. Interdisciplinary teams examine workforce development, health care access and healthy communities.
- **Alianzas** fosters inclusive communities that recognize and address the unique qualities and challenges of Hispanic/Latino residents using a community-based, collaborative learning approach.
- **Consortium on Aging** is an interdisciplinary group of faculty representing most campus units, that is led by the Center on Aging Studies and the Institute for Human Development. It encourages collaborative conversations about research, programming, curriculum development and other academic pursuits that address issues of aging. These conversations are meant to encourage wider university collaborations. The consortium has already generated considerable interest, both on campus and in the Kansas City community.

MU Extension Is a Major Driver of Economic Recovery and Jobs

University of Missouri Extension is a valuable resource that helps Missourians create jobs and spur economic recovery and growth.

MU Extension's strategically positioned network of specialists is a catalyst for businesses, government and nonprofits to work together to create stable employment and brighter futures for communities.

Every year, more than 1 million Missourians turn to MU Extension. Our specialists help by

- advising small business owners,
- helping displaced workers find new jobs,
- providing education for families to make better financial decisions,
- teaching young people skills that will prepare them for the workforce,
- helping farmers be more profitable, and
- working with community leaders to help them make wise choices for their local economies.

All MU Extension programs contribute to creating and sustaining jobs and sharpening workplace skills. MU Extension programs in agriculture, community development, human environmental sciences, business development, youth development and continuing education harness university research to respond to Missourians' needs.



Brett Craigmyle, University of Missouri weed science graduate student, cuts off the remains of a weed to see how much live tissue still exists in the plant. His research aims to find better tank mixes for 2,4-D and dicamba to use on cropland. MU Extension brings research like this to Missourians, helping them live more profitable lives. (Roger Meissen photo)

Agriculture —

works to sustain and create jobs in production agriculture and related industries, while improving quality of life and enhancing the economic viability of Missouri enterprises with mindfulness toward protecting the environment and Missouri's natural resources. One example of this impact is pasture-based dairies.

Modeled on MU Extension's rotational grazing systems, this practice has generated more than \$1 billion during the past 5 years, adding to Missouri's economy.



Linn County graduates of MU Extension's Step Up to Leadership program held a community bake sale to raise money for a women's shelter. Step Up to Leadership develops the leadership capacity of community-minded people who want to make a difference in their community through collaboration.

Community Development —

works with community organizations, businesses and groups to identify community strengths and to create a jobs-friendly environment. This year, program participants leveraged \$39.6 million for their communities. One example of impact: The program partnered with other agencies to start the Business Recovery Center in Joplin, serving more than 500 businesses affected by the tornado.

Human Environmental Sciences —

works to maintain a healthy workforce through nutrition, fitness and exercise programs showing



Eating from the Garden is a nutrition and gardening curriculum for fourth- and fifth-grade students. The program applies research-based information through nutrition and gardening activities to increase consumption of fruits and vegetables and to promote healthier food choices, gardening knowledge and physical activity.

Missourians how to live healthier lives. One example of impact: Worksite wellness programs have been shown to lower or slow the increase in health care costs, increase worker productivity, reduce absenteeism, improve worker morale and increase employee retention. On average, worksite wellness programs save employers \$3.48 for every \$1 invested. The MU Extension Healthy Lifestyle Initiative provides the WorkWell Missouri Toolkit and other resources to help Missouri employers develop, implement and evaluate workplace wellness programs that save money, retain jobs and create the potential for funding new jobs.

Business Development —

counsels and helps business owners, managers and would-be entrepreneurs through programs in business startup, marketing, management, finance, government

contracting and leadership. The program helps people redirect to new jobs after they've been laid off. The Business Development program achieved \$1.2 billion in economic impact in fiscal year 2011 and helped its clients create or retain over 16,000 jobs.



Danny Lobina (left), director of the Moberly Area Community College SBTDC, spent a few days advising business owners affected by the May 22 tornado that leveled more than one-third of Joplin. Lobina was one of many MO SBTDC counselors from across the state who counseled Joplin businesses in the months following the destruction.

4-H Youth Development —

prepares young people with leadership, citizenship and life skills — including job-related attitudes and skills — teaching them how to be entrepreneurs. For every \$1 invested from public resources for Missouri 4-H, the program leveraged \$3.30 to serve young people and families statewide. According to a Carnegie report, the value of youth development programming provided by MU Extension 4-H faculty and staff exceeds \$36 million — a return of \$5.35 on the public investment.



Eric Pherigo, manager of The Textbook Game store in Columbia, comments on marketing ideas presented by a group of 4-H'ers during Missouri 4-H State Congress. Students developed a marketing plan for his business and others in an afternoon workshop, later presenting their final ideas to the business owners. (Roger Meissen photo)

Continuing Education —

provides on-the-job training to professionals, such as nurses, doctors, firefighters, law enforcement officers, business employers and employees, veterinarians and others to help them gain the skills and knowledge required to maintain or advance in their positions. CE offers face-to-face, online and distance education programs that allow people to update their skills while still being employed. These programs also help build the capacity for creating and retaining businesses and quality jobs in the community. Attendance in these MU Extension programs in FY 2011 was 73,332.

MU Extension in Northwest Missouri: 4-H LIFE



Erin Markley, center, and daughter Nevaeh enjoy a 4-H club meeting at the Chillicothe Correctional Center. The program gives Markley the opportunity to be a positive influence on her daughter and learn life skills to help her succeed after prison.

4-H program strengthens family ties between children and incarcerated parents

Prison isn't normally thought of as a place to nurture family growth, but one weekend each month dozens of sons, daughters, mothers and grandmothers travel to prisons across the state for that very reason. The University of Missouri Extension 4-H program 4-H LIFE works to help inmates and their children learn skills that will help them succeed in life, both inside and outside prison walls.

"4-H LIFE just opens up the door to communicate, to be able to address issues that we wouldn't be able to

address in another setting," said Judy Henderson, an inmate at the Chillicothe Correctional Center. "It lets me see a different side of them that I wouldn't normally have the opportunity to see because of the kind of sentence I'm serving."

That experience is one of the goals of 4-H LIFE, which stands for Living Interactive Family Education. Inmates meet weekly to tackle life-skill topics like anger management, parenting and communication. They discuss their values as well as how their life decisions led them to where they are today. During the monthly family visits, the inmates have the opportunity to be a positive influence on their families.

The National 4-H Council awarded \$577,000 from a U.S. Department of Justice grant to replicate Missouri's 4-H LIFE program in 12 to 15 federal prisons in other states.

Through the 4-H National Mentoring Program, prisons in New Hampshire, Alabama, Louisiana and Washington, D.C., hope to mirror the success of Missouri's 11-year program, which operates in prisons in Potosi, Chillicothe, Pacific, Vandalia and Jefferson City.

"It makes a big impact on the children, because visiting your parent in prison in a traditional visiting room is kind of rigid, very strict, and that makes it hard for kids to connect with their parents," said Lynna Lawson, MU Extension 4-H youth development

specialist. "Offenders in the program also become positive leaders that are involved in other positive activities within the prison like hospice, restorative justice or whatever is available at that prison."

During visits, parents, children and caregivers all participate in a 4-H club meeting. They often share in community service activities like Puppies for Parole, where they make items for local shelter dogs that are trained by inmates.

"When the kids and parents work together, it is quality time, and they are given the opportunity to practice the skills they learn," said Rick Smith, MU Extension 4-H LIFE mentoring program educator who works with the Chillicothe program. "These life skills not only help them be more effective parents but also help them improve relationships between themselves, their children and with their children's caregivers."

Henderson knows about life in prison before programs like 4-H LIFE gave families the opportunity for a deeper interaction with their incarcerated loved ones. She has served more than 30 years in prison for a capital offense, but said this program allows her to develop a more substantial connection to her daughter and grandchildren.

"Years ago when my daughter was young, all we did was sit at a table. We didn't have any activities to do and didn't have any discussions going on that comfortably opened up topics like the subject of teen problems," Henderson said. "Now my grandchildren see me in a leadership role, see what their grandmother is really about, and it shows me a side of my grandchildren and even my daughter I didn't know."

Jordan, 15, is one of her grandchildren. She said 4-H LIFE allows her a different sort of experience than she



Rick Smith, MU Extension 4-H LIFE mentoring program educator, engages a group of inmates and children during a 4-H club meeting in the Chillicothe Correctional Center. The meetings create a learning environment where parents can take leadership roles and teach their children.

had in other correctional facilities where she visited her grandmother and could not talk or interact fully.

“We’ve met a lot of friends here, other kids like us and that makes you feel like you’re not alone,” Jordan said. “It feels more like home, like you can be yourself, and that has really brought us closer to Grandma and each other.”

That closeness can be heard each visit, especially when exuberance overflows in the 4-H meetings. Talking about service projects and values, recognizing birthdays and reciting the 4-H pledge starts to unite them in their common experience.

“Everyone is busy with their daily lives. Teenagers don’t really want to sit with their parents, but they get

excited for these 4-H meetings,” said Angel, Judy Henderson’s 43-year-old daughter.

“This has become our family time to the point that for the whole two-hour drive down we didn’t even turn on the radio. We just talked and laughed.”

The Missouri Department of Corrections recognizes this benefit inside and outside prison walls.

“The 4-H LIFE program is a family-strengthening program that teaches offenders to be good parents and helps them teach their children leadership skills,” said Chris Cline, communications director for Missouri DOC. “A goal of the program is to help children avoid following in their incarcerated parents’ footsteps, and over time it has proven to change lives for the better.”

How it changes lives becomes even more apparent



(Left to right) Inmate Judy Henderson makes blankets for the Puppies for Parole project with her grandson, Jarred, her granddaughter, Jordan, and her daughter, Angel, during a 4-H LIFE visit at the Chillicothe Correctional Center. Service projects like these nurture teaching moments between families.

as inmates make parole or are released. More than 96 percent of Missouri inmates are eventually released.

The program makes a difference for people like Erin Markley, who participated in 4-H LIFE for nearly two years. After being released in July, Markley returned home to take care of her 7-year-old daughter, Nevaeh.

“Through 4-H and other programs here, I’ve got goals in mind today and realize the value that I’m missing in being a mom,” Markley said. “It has given me all the opportunity as a mom to instill values, morals and teaching techniques from a distance, and I recognize how important it is to be a positive example for Nevaeh and how my actions reflect in her growth.”

For more on 4-H LIFE, visit <http://extension.missouri.edu/4hlife>.



The Pony Express statue, in downtown St. Joseph, commemorates the mail service that linked the U.S. from St. Joseph (in MU Extension's Northwest Region) to Sacramento, Calif. Riders carried mail nearly 1,900 miles each way between April 1860 and October 1861. The statue was sculpted by Hermon Atkins MacNeil and dedicated in 1940. (Photo: Maxine Arnoldy, Jefferson City, Mo.)

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