Annual Report
2012

University of Missouri Extension

Working for Missouri’s Future
The region is bisected by the Missouri River with 10 of the 14 counties adjoining the “Mighty MO.” Rolling hills dominate the topography north of the Missouri River and are primarily used for row crops and pasture. South of the river the land begins the transition to the Ozark hills with pasture and forest more prominent than row crops.

While mostly rural, with a population of 488,000, the Central Region is home to several state institutions and private enterprises. Jefferson City (Cole County) is home to the state’s capital; Columbia (Boone County) hosts the University of Missouri; and the state fair is held each year in Sedalia (Pettis County). The only nuclear power plant in the state is located in Callaway County. It’s owned by Ameren UE and produces about 19 percent of the company’s Missouri-generated power. Boone County serves as headquarters for Shelter Insurance and hosts several regional medical facilities.

The 2010 high school graduation rate for the region is 87 percent. More than 84 percent of the region’s residents have a high school diploma, while 26 percent hold a bachelor’s degree or higher. Boone County, home of MU, has the largest percentage of residents, 45 percent, with college degrees in the region. Boone also contains the largest city in the region, Columbia, ranking fifth in the state in population.

In addition to the Missouri, other rivers flowing through the region include the Osage, Gasconade, Blackwater, Moreau and Maries rivers. These rivers are associated with Missouri Department of Conservation and National Fish and Wildlife public facilities and offer outdoor enthusiasts many recreational opportunities.

[In January 2013, MU Extension realigned regions to reflect changes in the economic development needs of Missouri, population demographics, societal changes and funding constraints. The Central Region blended into surrounding regions, and one urban region was created to better serve both major metropolitan areas of the state.]
MU Extension Programs

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On the cover

Top left, Odie fetches a tool for Bruce Trammell, a Kingston farmer who suffered a brain injury that causes balance and mobility issues. Trammell received the dog from the PHARM (Pets Helping Agriculture in Rural Missouri) Dog program, part of MU Extension’s AgAbility Project. The program works with injured and disabled farm workers who want to remain in agriculture. PHARM Dog trains dogs for farm-specific tasks such as retrieving tools, opening gates, herding livestock or providing balance for farmers. (Photo: Roger Meissen)

Top right, Fire and Rescue Training Institute instructor Dean Martin monitors the progress of a fire in a burn cell simulation. The special burn cell is part of the mobile fire-cause simulation trainer used by FRTI. The module will help firefighters spot the cause of fires and recognize clues of arson. (Photo: Jessica Salmond)

Below left, Missouri 4-H youth specialist Jim Ronald explains different flavors of herbs to Show-Me Chef competitors at the 67th annual State 4-H Congress. The 37 available salad ingredients included sage and rosemary from Ronald’s garden. (Photo: Jessica Salmond)

The FY 2012 annual report features MU Extension’s Central 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.
Last year, Missourians faced a struggling economy and natural disasters such as extreme heat, drought, flooding and tornadoes. Local governments were stretched with reduced tax revenues. And families were stressed by financial hardships.

Yet through it all, Missourians continue to be strong and resilient. University of Missouri Extension is there — helping citizens in every county. Every day, MU Extension specialists help create jobs through business counseling and agribusiness development; strengthen families through personal finance and health programs; encourage youth through entrepreneurship and science-based projects; add value to communities through visionary planning and leadership development; and improve people’s quality of life with lifelong learning.

I am proud to report that in FY 2012, MU Extension faculty recorded 2,183,818 contacts with customers. Our continuing education programs had 78,361 attendees. Thousands of additional contacts took place through our comprehensive website: extension.missouri.edu.

As Extension moves into its 100th year of helping to improve people’s lives, we continue to build a strong future for Missourians with innovative solutions for better living.

- A realigned organizational structure that better reflects Missouri in the 21st century will help address changes in the economic development needs of Missouri, population demographics, societal changes and funding constraints.
- As part of a revitalized strategic plan, One MU Extension promotes a culture of programs and services collaborating, while valuing their unique strengths.
- We are beginning a visionary new approach to programming, which will better position MU Extension for the future. By integrating programs, MU Extension can coordinate the efforts and resources of various programs in a more effective interdisciplinary response to issues and needs of Missourians.

This year’s annual report highlights MU Extension’s former Central Region. I invite you to read the light gold-shaded text boxes scattered throughout and see how MU Extension is hard at work in this region.

MU Extension, with a presence in every county, connects Missourians to the university’s research and resources. Extension puts us on the ground and in a position where we can be a broker of educational information, of services and of building partnerships. That’s what we do best.

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

Michael D. Ouart
Community Development

Marc Linit, PhD, associate dean
Mary Simon Leuci, EdD, program director and assistant dean

extension.missouri.edu/cd

The Community Development program (CD) helps Missouri citizens and communities tap into local strengths by focusing on five major themes: leadership development, decision making, economic viability, inclusion and empowerment, and emergency preparedness. Response to major disasters throughout the state was a significant part of the CD program’s efforts during the past year. The following examples are just a few highlights of the program’s many efforts.

Through the Community Emergency Management program, CD specialists helped Missouri communities devastated by flooding, tornadoes and drought. Specialists helped guide local long-term recovery committees, which focused on the revival of resilient families, businesses, farms and communities. In addition, CD specialists expanded the use of social media for collaborative recovery and education, and developed a how-to guide that helps communities use social media in disaster recovery. In follow-up evaluations with severely affected communities, long-term recovery committees credited MU Extension for its work in providing educational resources and support.

A related effort by CD’s Community Management Preparedness program assisted the Governor’s Faith-Based and Community Service Partnership for Disaster Recovery. This statewide effort helps Missourians’ recovery plans by developing and implementing a holistic approach to disaster recovery. CD program representatives helped the governor’s partnership maximize public and private resources to foster an integrated system addressing human services, housing, infrastructure, and community and economic development issues.

The CD program developed an After Action Report (AAR) that outlined the efforts taken by regional offices in areas affected by the Joplin tornado and the flooding along the Missouri and Mississippi rivers. The AAR outlined the strengths and areas of improvement identified by MU Extension specialists within the regions affected by these natural disasters and by other MU Extension specialists throughout the state who provided support and information to the recovery efforts.

Partnering with the statewide network Missouri Voluntary Organizations Active in Disaster (MOVOAD), the CD program contributes to MOVOAD’s ability to coordinate planning efforts of the many voluntary organizations preparing for, responding to and recovering from disasters. Member organizations provide more effective and less duplicative services by organizing efforts before disaster strikes. MOVOAD has proven to be the most effective organizational vehicle for the wide variety of volunteers and groups responding to natural disasters and community crises. In addition, the CD program received a contract from MOVOAD’s committee on Community Organizations Active in Disaster to develop a manual for emergency response groups that create community-specific emergency response plans.

Roger Beachy, right, former director of the USDA’s National Institute of Food and Agriculture, tours the Old North Grocery Co-op in St. Louis on Feb. 25 with, from left, Old North St. Louis Restoration Group director Sean Thomas; MU Extension community development specialist Kara Lubischer; and Michael Ouart, vice provost and director of MU Extension.

With the help of MU Extension, the Old North Grocery Co-op opened last summer and prides itself for bringing food grown “from 100 feet to 100 miles” of the neighborhood. Previously, only fast food and convenience stores were within easy walking distance of the neighborhood, creating what researchers call a food desert.
For more than a century, 4-H programs have helped young Missourians learn leadership, citizenship and life skills, meet key developmental needs and pursue educational goals. During the year Missouri 4-H reached young people in every county of the state. Youth development specialists and other MU Extension team members worked with volunteers and community leaders to reach more than 282,000 Missourians ages 5 to 18. These young people — more than one-in-four Missourians from their age group — participated in a 4-H educational program, the 4-H year-long club program, a 4-H short-term school enrichment experience, special interest activities, camps or child care programs.

Every year the Missouri 4-H program links thousands of young people, parents, volunteers and professionals to MU. In 2012, Missouri 4-H enrolled 10,035 volunteers. The large volunteer force enables Missouri 4-H members to engage with more adult mentors than their non-4-H peers. Positive and sustained relationships between young people and adults are a predictor of the program’s effectiveness in helping youth gain confidence, achieve competency and learn generosity. Last year, more than 8,600 youths connected to the campus and MU faculty for 4-H educational events and camps.

The 4-H Youth Futures program helps make college an achievable goal for underserved youth. Campus experiences, coupled with a caring adult mentor, motivate young people and help them navigate the steps of attending and remaining in college. Recent data on Missouri 4-H members show 76 percent of eligible seniors pursue higher education. Another 14 percent enter the workforce. Missouri 4-H helps address America’s critical need of high-tech workers by participating in 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 higher than 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 program leverages $6.20 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 $36.8 million.

At the MU Lego Robotics Challenge, Zack Murphy watches teammate Kenneth Khor set up their robot while Jared Shopper, a MU biomedical engineering student, makes sure the course rules are followed. The challenge is open to home-schoolers, public and private schools, Girl Scouts, Boy Scouts and 4-H clubs. Satish Nair, a MU professor of electrical and computer engineering and biological engineering, started the program to help foster an early eagerness for engineering.

Averee Hooper, 9, rethreads the needle while hemming a pillowcase. After her grandmother passed away from cancer at age 57, Averee decided to begin making pillowcases for children with cancer and other severe illnesses.
MU Nursing Outreach (MUNO) provides high quality, affordable and accessible professional development programs for Missouri’s nurses. With the half-life of nursing knowledge being less than five years, coupled with the complexities and changes in health care and health care delivery, it is crucial for professional nurses to have the latest, evidence-based knowledge and skills.

Alone and in conjunction with a number of health care partners, MUNO provided accredited continuing education programs for 3,337 nurses and other health care providers in 2012. MUNO’s reach extended into 90 Missouri counties and 21 other states. Two of the many significant programs MUNO conducted during the year are highlighted below.

A gap exists between the need for competent nurse leaders and the current short supply of skilled nurse leaders in long-term care for seniors. To help bridge that gap, MUNO offered its fifth year of the MU Leadership Development Academy in Long-Term Care. The academy is designed to prepare nurse leaders and nursing home administrators (NHAs) for Missouri’s long-term care settings. To date, 147 RNs and NHAs have graduated from the academy.

Graduates of this innovative and evidence-based leadership program report increased confidence in their ability to perform leadership skills and in their transformational leadership practices. They also report improvements in self-concept and self-image as leaders. Peers, subordinates and supervisors within their work settings also note significant changes after their colleagues participate in the academy. Employers find that retention rates for academy graduates 6 to 18 months after graduation are significantly higher than the average in Missouri and the nation.

Healthcare Associated Infections in Ambulatory Care Settings offered a one-day Best Practices in Infection Control for Ambulatory Surgery Centers and Other Outpatient Settings at four sites (Blue Springs, Columbia, St. Louis and Springfield) last year for 193 nurses. The innovative curriculum covered evidence-based basic infection control practices and content for developing a safe and just culture.

Pre- and post-tests indicated that knowledge, skills and attitudes improved significantly following training, suggesting increased abilities related to providing infection control and a culture of safety. A website http://nursingoutreach.missouri.edu/infectionprevention11.htm with learning resources related to the project was developed to reinforce the principles learned.
Missouri is fortunate to have a diversity of natural and human resources and a sophisticated business base on which to build a progressive agricultural and state economy. Although this diversity provides many opportunities, it also presents challenges in such areas as energy, climate, water quantity and quality, distribution of farm size and scale, new markets, consumer understanding of agriculture, diversity of workforce and transportation. MU Extension addresses these challenges and opportunities.

The following examples demonstrate the impact of MU Extension on the lives of Missourians last year.

Livestock production accounts for approximately 53 percent of the state’s agricultural receipts. As a direct result of the MO PORK program, pork producers have reformulated their swine diets using the National Swine Nutrition Guide formulator, resulting in a feed savings of more than $36 million. Data from the pasture-based dairy program has consistently shown that milk can be produced at $3 to $4 less per 100 pounds when compared to conventional dairy systems. During the past 15 years, the economic impact resulting from Show-Me-Select, a statewide on-farm heifer development and marketing program, has exceeded $60 million. The MU Extension beef nutrition program educated producers on strategies to reduce their hay needs by 10 to 30 percent and cut supplementation cost by 25 percent.

The wide range of climate and topography, coupled with the availability of irrigation in the state, results in diverse production of forages and crops such as corn, rice, soybeans, wheat, cotton and horticulture output. The Missouri Pesticide Use Act requires anyone using restricted-use pesticides to be trained and certified. Last year MU Extension faculty provided certification and recertification training for more than 3,000 private and commercial pesticide applicators. A random sample survey of rice producers found that educational efforts by MU Extension faculty led to an increase of acres scouted by professionals from 11 percent in 1996 to 54 percent in 2011. Educating producers about better irrigation management resulted in increased production valued at about $40 million last year. Crop advisers and managers who attended the 2011 Crop Management Conference manage more than four million acres throughout the Midwest. They received current research findings on topics such as pest management, soil health, nutrient management, climate variability and land economics. Last year, Master Gardeners contributed 145,273 volunteer hours with an estimated impact on their communities of nearly $2.86 million.

The future economic viability of the complex and ever-changing agriculture industry depends on
practitioners having the business skills and vision necessary to make sound management decisions. The estimated 10-year present value of those businesses assisted by the Missouri Value Added Center is $78 million, along with the creation of 185 jobs. Seventy-three percent of participants in estate planning workshops indicated they would develop an estate plan as a result of their attendance. Ninety-eight percent of those who attended the statewide ITV fence law sessions indicated they better understood Missouri fence law requirements.

Missourians have a strong interest and commitment to protecting the environment and the state’s natural resources. MU Extension has offered educational classes for private citizens on the proper care and maintenance of on-site sewage systems. As a result of these educational efforts, participants showed a 67-86 percent increase in knowledge gained. In one single targeted area, more than 300 people have implemented proper pumping and maintenance programs. Participants in the Missouri Woodland Steward Program implemented forest management plans and estimated that they increased the value of their forests by $750 per acre as compared to those that had no management plans.

Three of the 51 students who completed the P2 class served as Mizzou P2 interns at companies in Columbia, Kirksville and St. Louis. Interns receive a 10-week paid industrial position to apply their training.

Since 2008, interns from the P2 program have cumulatively provided the following annual results for Missouri companies:

• 17 million gallons of water saved,
• 260,883 pounds of medical and hazardous waste reduced or eliminated at the source,
• 5,454,012 kWh electricity saved,
• 17,297 million metric BTUs of natural gas saved, and
• 9,092.749 metric tons of CO₂e (greenhouse emissions) saved.

Cumulatively, Missouri companies participating in P2 experience an annual recurring cost savings of $1,401,836.
The MU Extension 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, to act effectively in the workplace, and to 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 program faculty aim to meet the immediate and emerging educational demands of leaders of complex organizations. In 2012, Labor Education offered 37 courses and conferences to meet the needs of 1,173 participants.

Economic instability in the United States poses a significant teaching and research challenge to Labor Education. As the labor market struggles to recover from the economic crisis, traditional educational goals of leadership and organizational development remain an important focal point of Labor Education programming. However, the need also is 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 focus of Labor Education programming in 2012 involved the pressures imposed on economic security through significant changes in employee retirement and health benefit plans.

The program continued to disseminate Missouri-based research on the connection between public policy initiatives and their impact on the Missouri labor market. Public policy research presentations in eight locations across the state addressed issues such as the relationship between policy initiatives and employment trends, and public infrastructure investment trends.

For more than 10 years, Labor Education has worked with the joint apprenticeship and training programs of various unions and contractor associations in the construction industry. This effort is designed to develop and deliver craft-specific labor history and other classes for apprentices, as an important part of their job training and development. As a direct result of these programming initiatives, a Labor Education faculty member received a $52,000 contract to develop a labor history curriculum for inclusion in all apprentice programs of the International Union of Operating Engineers in the United States.

The program also continued its long-standing collaboration with the UMKC Department of Economics and UMSL Arts and Sciences Continuing Education to deliver the credit Labor Studies Certificate program.

In 2012, the Labor Education Program offered 37 courses and conferences to meet the needs of 1,173 participants. The 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, to act effectively in the workplace, and to be informed and active participants in their communities.
Among the many highlights of MU’s Osher Lifelong Learning Institute in 2012, was the establishment of a seven-course introduction to computer basics for the technologically uninitiated portion of the institute’s over-50 audience. The program is modeled on a similar introductory program aimed at a younger audience and developed by Structured Learning, a provider of technology teaching tools to the educational community.

Working with an IT professional and the materials provided by Structured Learning, the Osher Institute created a series of seven interrelated basic computer technology courses. Each course is a prerequisite for the next, and no new students were allowed to join the program once the course sequence started.

In previous introductory computer tech courses attempted by the institute, Osher instructors found difficulty addressing the disparity in student backgrounds on the course topic, with the more knowledgeable learners frustrated by the slower pace of novices attending the same class. In contrast, the newly designed course in 2012 erased that problem and the seven-course program provided a more learner-friendly approach for the range of computer sophistication of its various participants.

Throughout 2012, the Osher Institute offered a total of 152 learning events on a variety of topics of interest to its older audience. The programs reached a total of 3,374 individuals through 12,309 contact hours. A large portion of the events were free of charge, a result of the severe impact of the prolonged economic downturn, which has taxed the limited resources of many members of the institute’s audience living on fixed incomes.

Here’s what learners have said:

- “All of us need to continue to learn. It keeps us involved in our community and exercising our brains.”
- “I love the variety of new subjects that one can study and enjoy.”
- “The classes put me in small group learning situations with experts in the field and in instances such as this course targeted to my place in the life cycle.”
- “A widening of knowledge on all of these subjects enhances the value of everyday living.”
- “It keeps my mind active and in great shape -- it is exercise for the mind.”

Above: Watercolor was just one of many classes Osher Lifelong Learning Institute students could choose.

Left: Osher offers a series of seven interrelated computer technology classes in a learner-friendly atmosphere.
During the year, the Business Development program (BDP) helped clients
• start 249 new businesses,
• create or retain 7,473 jobs,
• increase sales valued at more than $235 million,
• acquire more than $199 million in new financing for their companies,
• pursue investment efforts in research and commercialization leading to $4.3 million in research grant awards, and
• win 2,814 local, state and federal government contracts totaling more than $191.5 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 5.36 million website page views.

In 2012, the BDP focused on the concept of the entrepreneurial pipeline, a strategy based on the work of small-business researchers Tom Lyons and Gregg Lichtenstein in their book *Investing in Entrepreneurs*. In the pipeline, entrepreneurs are distinguished by their skill levels, and businesses are segmented by their stage of development in the business life cycle. Putting the two dimensions together allows a community to map its entrepreneurial assets and determine both the quantity and quality of the business ventures it hopes to cultivate. The needs of entrepreneurs and enterprises in each segment of the pipeline are different, as are the services and the infrastructure necessary to support them. Movement through the pipeline requires a transformation, either in the skill level of the entrepreneur or in the evolution of the business to the next stage in its life cycle.

An outgrowth of this strategy has been the formation of subject-matter teams to assess the needs of entrepreneurs in various stages of the pipeline and to identify products and services that can be offered by the BDP to address those needs. Team topics include domestic marketing, international marketing, government marketing, financial management, energy and environmental issues, coaching and management. This drives the BDP to find solutions for established and more sophisticated companies where greater numbers of jobs are created.

An example of team activity is the Business Growth Services program, designed to help companies poised for growth to find new markets and develop new product lines. This team focuses on growing locally owned companies through an entrepreneur-centered strategy. The BGS team focuses on second-stage companies — those firms that are established, have expanded beyond the startup phase, and are poised for growth.

Drs. Katy and Brian Thompson, researchers, business partners and husband-wife team review research in their lab at the MU Life Sciences Business Incubator in Columbia. The Thompsons contacted the Small Business Technology and Development Center at MU’s College of Engineering for help with the business startup and licensing agreements for their company, Elemental Enzymes Inc. in Columbia. The company designs enzymes to remove pesticides, heavy metals, pharmaceutical residues and remnants of explosive compounds, among other applications.
MU’s Fire and Rescue Training Institute (FRTI) provides comprehensive continuing professional education and training to Missouri’s fire service, emergency responders and allied personnel. As one of only eight fire training systems housed within a university in the United States, FRTI maintains a prominent reputation as one of the leading statewide fire training systems.

Training is conducted across the state in local communities and through annual and regional fire schools. During 2012, FRTI provided 217,848 instructional hours of training and conducted 696 individual courses with a total enrollment of 17,096 students. Increased subsidies provided a 10 percent increase in student enrollments from the previous year. Students represented all 114 Missouri counties and 43 other states. FRTI personnel, vehicles and support trailer fleet traveled 246,207 miles to deliver training.

In 2012, FRTI celebrated 30 years as an accredited institute at MU and its 80th year as a training program. Its roots trace to 1933, when several mid-Missouri fire departments joined with MU to address the need for more advanced training. Today FRTI is renowned for its excellence in fire and emergency preparedness programming (essential occupational training) as well as its engagement with the community and emergency responders.

Missouri has 893 fire departments or fire protection districts in the state, collectively served by an estimated 23,600 firefighters. There are, on average, four firefighters for every 1,000 Missouri citizens, and one firefighter to cover every three square miles. Approximately 90 percent of the state’s firefighters are volunteer or part-paid. Every day, Missouri firefighters and emergency personnel have the potential to respond to fires, emergency medical events and disasters in order to protect their citizens and communities. The training they receive is essential to their ability to mitigate incidents and restore communities.

The accredited course work of the institute is taught through a diverse delivery system across the state providing accessible, multidisciplinary education and training. On average, FRTI starts 13 courses each week. Comprehensive training topics include structural firefighting; wildland and aircraft firefighting; technical rescue; fire service instructor and company officer preparation; emergency medical care; anti-terrorism; and emergency management, planning and exercise evaluation.
The Continuing Medical Education program (CME) works to improve the health literacy of Missourians by developing, implementing and evaluating both clinic-based and community-based chronic disease prevention and self-management interventions. Major accomplishments during the year are highlighted by these efforts.

- The CME program provided a research update for all MU Extension regional specialists who provide diabetes self-management education through the Eat Well Be Well With Diabetes program. A major effort during the year modified the program’s curriculum to reflect recent diabetes self-management education research recommendations.
- During 2012, the program reached 464 Missourians through 79 Eat Well Be Well With Diabetes workshops delivered across the state. Evaluation data show program participants reported improvements such as eating the right amount of food to keep blood sugars in a normal range, checking blood sugar levels as recommended by their provider, making healthier food choices and preparing healthy meals.
- The program, Taking Care of You: Body, Mind, Spirit, a group multi-session stress management program, improved participants’ ability to manage stress and adopt healthy behaviors. The program reached a total 1,295 people through 107 sessions. Research on the program shows that participants decreased stress levels and improved their nutrition, physical activity, stress management behaviors and spiritual health indices.
- The CME program continued the partnership with Missouri Arthritis and Osteoporosis program to provide chronic disease self-management educational programs throughout the state by human environmental sciences regional extension specialists. The project aims to improve patient chronic disease self-management by implementing system changes in primary care clinics concerning patient-provider interactions around self-care related to lifestyle behaviors. Regional specialists delivered 23 multi-session programs to 214 Missourians around the state.
- The program collaborated with a group of faculty and staff from MU’s Center for Health Policy and the family and community medicine department to partner with Missouri communities to improve the health of Missourians. In the first year of this grant-funded effort, initial steps were taken to develop a prototype partnership with a community.
- The CME program provided expertise and writing assistance for a manuscript on the role of the primary care extension program in the current and future national healthcare system. The publication effort is in collaboration with the Robert Graham Center in Washington, D.C., and other distinguished faculty around the country.

Speaker Mary Tellis-Nayak, RN, MSN, MPH and vice president of Quality Initiative, leads a session at the 22nd annual conference, Caring for the Frail Elderly. She presented “My Inner View: The Residents’ Perspective on Nursing Home Care.”
The Missouri Training Institute (MTI) in MU’s Trulaske College of Business provides continuing education, custom-designed training programs and business consulting services for business and industry, public and nonprofit organizations, and educational institutions. Training programs cover human resource management, supervision, management, leadership, team building, effective decision making, generational differences and business writing. The institute’s consulting services cover human resources, strategic planning, board development and board retreats. In 2012, more than 11,903 people from all 114 Missouri counties enrolled in the institute’s 537 programs.

Top accomplishments and program highlights of MTI include:

- Continuing to grow and diversify its customer base and its products and services. Both grant-funded and fee-for-service efforts saw 26 percent increases in customers served.
- Competing for and receiving a grant from the Missouri Department of Elementary and Secondary Education to provide training to administrators and teachers in its adult educational development (AED) and English as a second language (ESL) programs across the state.
- Expanding its role in the professional development program of the Trulaske College of Business by delivering training for undergraduate students enrolled in the program and by teaching the for-credit course requirement.
- Continuing long-standing partnerships with for-profit and not-for-profit organizations.

MTI served these customers with a variety of training products including a supervisor’s certificate program for MU managers 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.

Major customers for these products included ABC Labs, Alliance Water Services, Ameren UE, Gates Rubber and Missouri Employers Mutual.

The institute also provided consulting services to private businesses and not-for-profit organizations. MTI offered strategic planning advice to ACT Inc., the Missouri Ethics Commission, the Missouri attorney general’s office and MU’s Web communications office. It also offered executive coaching services for the Missouri attorney general’s staff, Boone Hospital, ABC Labs, and MU’s health professions school.

MTI continued to offer training services to public agencies and associations, and private nonprofit organizations such as the Missouri Department of Natural Resources, the Missouri court administrators association, the Missouri workforce development association, the public school retirement association and central Missouri’s community action agency.

MTI conducts a variety of training programs, as shown on the home page of the program’s website.
Human Environmental Sciences

Jo Britt-Rankin, PhD, program director and associate dean, College of Human Environmental Sciences

extension.missouri.edu/hes

Human Environmental Sciences Extension (HES) faculty and staff provided direct and indirect education to more than 590,000 Missourians this year. Following are highlights of the many notable efforts conducted by HES in 2012.

The Missouri Agricultural Energy Saving Team: A Revolutionary Opportunity program completed 106 home energy audits for farm owners. Ninety-seven program participants collectively reported a 45 percent annual energy expense reduction and an average annual energy savings exceeding $1,000 each. Energy cost savings by all participants was $102,600.

The Missouri Taxpayer Education initiative helps lower-income Missouri families with free tax preparation. Tax specialists in the program helped participants complete 4,065 tax returns in 2012, resulting in more than $4 million in refunds to Missouri taxpayers.

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, which reduces the need of community health services for children of divorce. In 2012, more than 2,900 Missourians participated in face-to-face Focus on Kids programming.

Stay Strong, Stay Healthy is a fitness program designed for older adults. Participants take five fitness assessments before and after completing the 10-week class. During the year, 88 percent of participants improved in one fitness assessment and 76 percent of participants improved in three to five fitness assessments after completing the program. The health benefits from this program decrease the likelihood of participants entering a nursing home, which costs an average of $51,324 per year in Missouri. The money saved benefits individuals and communities. Participants remain active, live independently and contribute to society longer. It also keeps more discretionary income in circulation within the local community.

Before joining the Eat Well, Be Well With Diabetes program, only 13.9 percent of participants reported either frequently or always using the plate method or carbohydrate counting at most meals. After taking the program, 79 percent reported using one of the two measures. Prior to the program, 36.2 percent reported frequently or always eating the right amount of food to keep blood sugars in a normal range at most meals. This increased to 61.4 percent at the end of the program.

Early Sprouts, a healthy eating and gardening program for preschool students, develops kids’ love for eating vegetables. The program — a partnership with Central Missouri Community Action — offers gardening experiences, sensory exploration exercises and cooking activities.

The curriculum From the Farm to You — richly illustrated book, coloring book and 2012 Telly Award winning video — was created for the kindergarten farm to school program, Food From the Farm. The curriculum supplements farm-to-school and school-garden programs, or forms the basis of a classroom farm-to-table unit.

In the book and video, Tomás the Tomato guides early elementary school age children on his journey from the farm to their table — encouraging children to think about where their food comes from and how it gets to the store, school or farmers market.
The Law Enforcement Training Institute (LETI) develops and provides state-of-the-art training and education programs to law enforcement practitioners, civilian professionals and laypersons. For 64 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. During 2012, LETI served 793 students from 65 Missouri counties and the City of St. Louis, as well as 263 students from 32 other states.

LETI offers three Class A-certified, 600-hour basic training academy classes that exceed Missouri’s minimum requirements for peace officer certification. Program delivery is modeled after police department structure. Academy participants are assigned a squad, squad leader and chain of command. Each 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 as leaders in their respective areas.

On average, 90 to 95 percent of academy graduates who are actively seeking a law enforcement career are hired within six months after completing the program. For the 15th straight year, graduates of LETI’s Basic Recruit Academy ranked within the top three basic training academy classes on the Peace Officer Standards and Training state licensing examination for certified Missouri peace officers.

In 2012, LETI graduated 100 new recruits from the basic training academy. In addition, the institute provided continuing education courses for 689 law enforcement professionals through more than 41 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 National Animal Cruelty Investigations program, which offers 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 program since 1990. In 2012, the faculty held 17 animal cruelty investigation schools and workshops in eight states, attended by 267 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.

During 2012, LETI began a program for civilians on personal safety, workplace violence and citizen response to armed subjects. More than 50 citizens received training.
Veterinary Medical Extension and Continuing Education (VMECE) works in collaboration with organizations, industry and other MU faculty to provide educational opportunities and up-to-date information for veterinarians and animal owners. In 2012, the program offered four continuing education events for veterinarians seeking continuing education credit to renew their veterinary licenses. Team members also presented information about animal diseases or production-related issues to more than 2,500 people at 49 different meetings across the state. They also made more than 30 farm visits with local veterinarians to help solve individual livestock problems.

A large part of VMECE’s role is to address issues that have widespread impact on Missouri veterinarians and livestock owners. Issues such as rising input costs, drought and increasing regulations all impact the livelihood of these individuals. During the year faculty worked with veterinarians and livestock producers to help them implement new ideas that reduce input costs and/or increase revenue. In addition, faculty conducted research in estrus synchronization to improve cattle reproductiveness, explored ways to expand marketing opportunities for small- and medium-sized beef producers, developed measures to increase biosecurity in swine operations, and worked with veterinarians and producers to improve health in beef and dairy cattle.

Another issue challenging livestock owners and agriculture is public concern about how food is produced. Many people do not understand the current complexities of food production and question the environmental, social and scientific merits of today’s agricultural production systems. Agricultural producers pride themselves on providing one of the safest and most abundant food supplies the world has ever known. As a result of this discrepancy in viewpoints, consumers are wary and critical of modern food production, while agriculture struggles to tell its side of the story to consumers. This leads to mutual frustration and distrust.

In response, VMECE faculty in collaboration with other MU faculty, are developing a Food Dialogue Center. The center will serve as a resource for consumers who want unbiased and balanced information about food and food production. In addition, the center will promote dialogue among consumers, farmers and the food industry, thereby increasing communication and elevating trust among the various stakeholders.

VMECE faculty work side by side with veterinarians and livestock producers to reduce disease and improve productivity on livestock operations.

On a recent project a faculty member worked with swine producers in Pettis, Saline, Lafayette and Johnson counties to implement procedures to control and eliminate porcine reproductive and respiratory syndrome, an economically devastating viral disease of pigs.

More than 85 percent of the commercial swine operations in Pettis, Saline, Lafayette and Johnson counties were involved in this project. Collectively these operations raise 500,000 hogs.

In addition, faculty members have made 11 farm visits with local veterinarians in central Missouri to address complex disease issues, and have presented information at five different meetings held in the central region.

Faculty members have been involved in the Regional Food Systems Brown Bag Lunch series and together with other MU faculty are exploring ways to collaborate at MU in the areas of researching, developing, strengthening and creating food systems.

In 2012, faculty members worked with individuals from animal science and economics to develop the Missouri Beef Project. They also worked with meat scientists, wildlife extension faculty and the Missouri Department of Conservation to develop a venison processing course for hunters.
The MU Conference Office (MUCO) was created in 1963 to provide 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. In 2012, MUCO’s portfolio of conferences included applied reproductive strategies in beef cattle held in Joplin; a citizen corps training at Lake of the Ozarks; the North Central Regional 4-H Science Academy in St. Louis; and a national board chair/CEO conference of agricultural cooperatives in Newport Beach, Calif.

MUCO provides comprehensive services: the complete management of all specifics from budgeting, contract negotiation, menu selection, seating arrangements, name badges and proceedings, to final reconciliation of income and expenditures. MUCO excels at organization, attention to detail, and flawless execution providing enjoyable quality learning experiences.

In 2012, clientele included university academic and administrative departments; state and federal agencies; private and public organizations; faith-based groups; youth camps; and athletic groups.

During 2012, MUCO collaborated with eight MU colleges and schools, 17 administrative units, 10 federal and state agencies, and 13 associations and entities to deliver 91 conferences that generated $4.16 million in gross revenue. These conferences attracted 22,344 people, of whom 14,865 were Missourians.

Campus-based economic impact studies conducted by the Association of Collegiate Conference Events Directors-International confirm that university conferences and events are substantial contributors to both campus and local economies. MU hosted on-campus events that contributed $1.6 million to campus units, including $841,788 in revenue sharing. 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. MUCO held 22 conferences in Columbia hotels. It spent $290,833, adding to the local economy for food, beverage, and rental and lodging expenses.
Summary of Continuing Education Noncredit Activities
FY 2012

<table>
<thead>
<tr>
<th>Continuing Education Unit</th>
<th>Number of Activities</th>
<th>Attendance Total</th>
<th>Individual Hours of Instruction</th>
<th>Student FTE*</th>
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<tr>
<td>Continuing Medical Education</td>
<td>1,373</td>
<td>22,879</td>
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<td>Fire and Rescue Training Institute</td>
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<td>17,096</td>
<td>10,844</td>
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<td>Labor Education</td>
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<td>Law Enforcement Training Institute</td>
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<td>MU Conference Office**</td>
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<td>Arts and Science</td>
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<td>4-H Youth Development</td>
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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

** Seven other MU Conference office activities with attendance totaling 2,772 have been distributed among their related academic areas and are represented in the MU Extension unit totals in this table. See Page 19 for the summary of all MU Conference Office activities by MU division or program.
University of Missouri-St. Louis

UMSL’s Community Partnership Project (CPP) works with MU Extension through a variety of efforts by addressing the needs of residents in the St. Louis metropolitan area and statewide. During 2012, highlights included:

• CPP launched the St. Louis Healthy Corner Store Project, designed to increase the availability of nutritious and fresh foods at small markets in St. Louis neighborhoods. Operating as a partnership with the City of St. Louis, neighborhood organizations and local corner stores, the project will work in 12 city neighborhoods for three years to increase access to healthful foods and provide nutrition education.

• Twenty-one Neighborhood Leadership Academy graduates completed a 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 third year, UMSL Students of Service engaged more than 600 college students in service activities in schools and neighborhoods surrounding the UMSL campus.

• Conferences and seminars linked residents with University resources and covered key urban issues, including the impact of community gardens, opportunities for city and county cooperation, and the impact of community development corporations.

In addition, UMSL faculty members partnered with MU Extension on three other statewide program efforts.

• The Local Government Partnership serves as a resource in the St. Louis region and statewide through which local government officials can access quality information, assistance and training.

• The Missouri Youth Engaged in Local Government program teaches students about local government in Missouri and involves them in identifying and resolving issues confronting their own communities.

• The Small Business and Technology Development Center at UMSL provides training and technical assistance for new and existing businesses in the region. In 2012, the center offered seminars, workshops and counseling designed to serve startup and existing businesses.

University of Missouri-Kansas City

The urban mission at UMKC is directly tied with the work of MU Extension and the UMKC Institute for Human Development (IHD). As an urban-serving institution, this partnership has the opportunity to reach into the community and build the capacity of individuals and organizations as they respond to community issues. This work cuts across topics related to education, transition of youth to adulthood, healthy lifestyles, employment and other issues related to community development.

A primary part of the urban mission is to incorporate scholarly and community engagement by uniting community leaders, youth, parents, professionals and other interested parties. These capacity-building efforts create environments promoting access to quality programs and services.

MU Extension’s Urban Initiative has developed impact teams to promote research, exploration and program development to address health disparities in the state. Each of three teams will explore a different, but related, strategy to improve health and reduce health disparities in Missouri communities.

Alianzas effectively supports the concept of
community inclusion for underserved populations. It supports MU Extension, its partners and Missouri communities by recognizing and responding to the unique challenges of Hispanic residents in Missouri, using a community-based, collaborative learning approach. Alianzas strives to help communities collaborate with growing immigrant Latino populations, and to develop relationships with the Kansas City Hispanic community.

In partnership with UMKC’s Center on Aging Studies, IHD had a central role in creating the Consortium on Aging at UMKC. Its goals are to interpret outcomes, set standards, promote evidence-based practices, offer problem-solving resources and provide leadership.

The UMKC Innovation Center partners with the university and the community to spark entrepreneurial efforts. With several high-impact programs — the Small Business and Technology Development Center, the Procurement Technical Assistance Center and KCSourcelink — the center helps emerging and existing business owners hone skills, evaluate commercialization opportunities and connect with the right resources.

In 2012, TTED relocated to the Technology Development Center at Innovation Park. TTED manages the facility, the first to be constructed on Missouri S&T’s 50-acre research park, designed as a hub of entrepreneurial and economic development activity in the region. It provides a home for technology-based companies that want to strengthen their relationships with MS&T as well as for startup companies launched by faculty, students and community entrepreneurs. Missouri Enterprise, the Rolla Regional Economic Commission, and several small businesses and early-stage companies also call the center home.

TTED’s Technology Transfer Office received 46 invention disclosures (a record for MS&T), filed 22 patents applications, and executed six licenses and options. TTED also provided roughly $32,000 in aggregate funding to two MS&T research teams under its Technology Acceleration Program to finance translational research on promising innovations. One of the most exciting technologies to be developed during the year at Missouri S&T potentially could analyze Internet usage patterns to help identify signs of depression in Internet users. This work is lead by Sriram Chellappan, MS&T assistant professor of computer science. It was reported by MSNBC, CNN and The New York Times.

“The study is believed to be the first that uses actual Internet data, collected unobtrusively and anonymously, to associate Internet usage with signs of depression,” Chellappan says.
For Central Missouri business, chocolate brings sweet success

Alan McClure is the brains behind Patric Chocolate, a mid-Missouri business that brought the gospel of better sweets to mouths across the U.S. and small business success to the community.

McClure’s commitment to a better artisan chocolate bar transformed his business from a one-man operation into one that sold a quarter of a million dollars worth of chocolate in 2011, doubling his sales from 2010.

“SBTDC really helped me through some tight spots to make my business as successful as it could be,” McClure said.

The MU Small Business Technology and Development Center (SBTDC) helped McClure build a business framework to set realistic goals and make accurate financial projections.

“When Alan came to our center and I started working with him, he knew about chocolate, but he didn’t know much about business,” said Virginia Wilson, counselor with MU Extension’s SBTDC.

“We help small businesses like Patric Chocolate with one-to-one counseling, take them through the process of writing a business plan, looking at the financial startup costs, and estimating sales and expense projections to decide whether a business can be profitable.”

When McClure began the business in 2006, he started with just an idea. He was hooked on the concept, and spent much of his first year perfecting his process.

Wilson helped McClure refine his business plan, using financial tools to develop realistic goals that took operational costs and cash flow into account. This work helped Patric Chocolate secure loans to get the business up and running.

“SBTDC really helped me through some tight spots to make my business as successful as it could be,” McClure said. “Once, my business account was down to $300 and my entire staff had quit. I worked my tail off, and the business continued.”

Now McClure and his company produce 10 varieties of chocolate bars that sell online and in more than 40 local stores in Columbia. His bars now sell to consumers in 49 states and internationally.
A bronze Bengal tiger welcomes visitors to the Mel Carnahan Quadrangle, south of Jesse Hall on the MU campus. The quadrangle was dedicated on Sept. 12, 2003, to the late governor of Missouri in honor of his leadership in public service. The Carnahan Quad is surrounded by six themed, triangle-shaped gardens, which are part of the MU Botanic Garden. MU was founded in 1839 in Columbia and is the oldest state university west of the Mississippi River. With more than 33,000 students, MU is the state’s major public research university. MU Extension helps fulfill the university’s land-grant mission — service to Missourians through research. (Photo: Jessica Salmond, Cooperative Media Group)