



**GRADUATE  
STUDENT  
RESEARCH**

# matters

For more information on the MU Graduate School, please go to the website at <http://gradschool.missouri.edu>

*Through the contributions of the University of Missouri - Columbia's graduate students, Missouri's farms, cities and citizens benefit from the latest technology and research.*

*From saving lives through wildfire research to making Missouri's transportation systems safer to helping farms feed the world, Mizzou graduate students power the innovations that benefit the lives of every Missourian.*

*With more than 5,000 graduate students enrolled in master's, doctoral and educational specialist degrees in more than 90 programs, graduate students comprise nearly 20 percent of the University of Missouri-Columbia student population. Each graduate student conducts important research that enhances the prestige of the university and the state.*

*Learn more about the contributions of graduate students and see how graduate education benefits Missouri.*



Jeremy Kolaks, an MU forestry graduate student from Rogersville, Mo., watches as a prescribed burn moves across one of his study sites in Reynolds County.

## "Keep one foot in the black

*keep yourself anchored to what you know is right."*

When asked about his philosophy, Jeremy Kolaks (MS, '04) will tell you to "Keep one foot in the black."

Kolaks explains, "It's a woodland firefighting term that basically means to keep yourself anchored to what you know is right - whether it's keeping in touch with student needs or the needs of your profession."

Kolaks wasn't exactly driven to enroll in a graduate program. After much encouragement from MU faculty, Kolaks quickly adapted to the pace of graduate student life. Kolaks found himself spending increasing amounts of time on campus rather than at his residence. He recalls spending a good deal of time in the Anheuser-Busch Natural Resources Building.

"I spent so much time there it was like a second home. Between the reading room,

courtyard and social atmosphere it was hard to beat," Kolaks said.

Kolaks recently completed his thesis titled *Fuel Loading and Fire Behavior in the Missouri Ozarks of the Central Hardwood Region*.

According to Kolaks, the woodlands and forests of Missouri are one-of-a-kind, but without proper care, these natural communities will soon disappear. Kolaks is working to save the forests by investigating the effect of different forest treatments to save these unique woodlands of the state.

"Given that the maintenance of these ecosystems depends on the prudent use of fire, this project promises to place better tools to manage fire in the hands of those who are trusted with the management of the state's forested landscapes," Kolaks said.

"I was always interested in pursuing higher education," said Aruna Bodduna (MS, '04). "I personally believe higher education provides an opportunity to better serve the community."

Bodduna's philosophy of her work doesn't just depend on outside influences. She also

**"I personally believe higher education provides an opportunity to better serve the community."**

believes that to be successful, you have to be your own best critic.

In 2004, Bodduna submitted her research thesis *ITS Evaluation Using Motor Assist Data*. Intelligent Transportation Systems (ITS) refers to a transportation system using a broad range of technologies to save time, money and lives.

Bodduna's research at MU uses Motorist Assist data for evaluating the impacts of the Gateway Guide Program, a new program designed to improve traffic flow and safety in St. Louis. The Motor Assist operators help identify and clear incidents and provide traffic control. Using technology such as closed circuit television cameras, these operators



can identify and verify the cause of a problem before it develops into a serious traffic jam.

While Bodduna prides herself on her academic accomplishments, her ambition extends beyond her graduate degree.

"I am still on the path to reach my goal," said Bodduna, "Success is still awaiting."



Above Left: The day before the burn is scheduled, Kolaks checks a remote weather-monitoring station to ensure that conditions are within acceptable levels to burn.

Above: Kolaks measures burn damage.

Left: Following a long day, the research team poses for a photo. From left, Erin McMurray, Keith Grabner, George Hartman and Jeremy Kolaks.

***MU Graduate School's campus-wide responsibility is to promote, encourage, & support graduate education, faculty & graduate student research, scholarship & creative achievement.***

Romina Gueli (MS, '04) understands the impact higher education has on a community.

"I come from Argentina where there are a lot



of poor, uneducated people. Without education, there is no progress," said Gueli, "Governments and politicians take

advantage of uneducated people and use them for their own benefit. Education gives you tools to defend yourself, be able to speak for yourself, and have your own viewpoints."

MU after working for an agrochemical company in Argentina.

"I had always been interested in pursuing a master's degree in the States. During my last year with the company, I was invited to visit several universities that were performing field studies for us. Back in Argentina, I contacted MU and decided it was time to pursue that dream," said Gueli.

Gueli conducted research into the use of herbicides on corn and soybean products in Missouri and produced her thesis *Controlling Weeds in Corn and Soybean Fields*.

For her thesis, Gueli evaluated the

advantages of applying herbicides in the fall to control the weeds that emerged in the winter instead of the traditional method of applying the chemicals in the spring.

With over 100,000 farms, Missouri ranks second only to Texas in the agriculture industry. Gueli believes the application of her academic pursuits can have real benefits to the people of Missouri.

"Improving corn and soybean production will increase the contribution of agriculture to the economy of local farmers and ultimately the state," said Gueli.

Gueli came to graduate education at

***"Without education, there is no progress."***