

2011-2012 AgExcellence

Montana State University College of Agriculture
and Montana Agricultural Experiment Station

LAND RESOURCES & ENVIRONMENTAL SCIENCES



Crops scientist Perry Miller carefully handles the spines on this safflower crop in the Gallatin Valley.

LRES Impact Spans the Globe

It is 9 o'clock Thursday morning in Bozeman and the assignment is to write a feature on the recent graduates from the Land Resources and Environmental Sciences Department's masters and doctoral program. This is no easy task as we must determine the time differences for England, New Zealand, New York, and Indiana. If it is 9 a.m. Thursday, Mountain Standard Time then it is 4 a.m. Friday in New Zealand. It is only an hour ahead in Indiana and two hours ahead in New York, but time for the new doctors in the United Kingdom to head to their local pubs.

The LRES graduates are as diverse as the locations where they are working. What they have in common is their success finding remarkable jobs and the positive experiences they shared at MSU. LRES has one of the largest graduate programs on campus averaging 55 students. Within the past year, 11 students completed a master's program and 11 received doctoral degrees. The story today is the stimulating job opportunities and the places these graduates are living, working, and studying.

Two students from the master's degree program are staying at MSU as research technicians, two landed jobs in private industry in Montana, one is with the USDA and Animal and Range Sciences as a research technician, and one is working as a biological science technician for the Northern Rocky Mountain Science Center. Canada National Parks hired a graduate to serve as a research manager and two are pursuing doctorates at the University of Alberta and Duke University.

The doctoral program sent expertise around the world with six taking postdoctoral placements in the United Kingdom, Pennsylvania State University, Univ. of Oregon, Univ. of Alaska, Univ. of Nevada-Reno and the University of South Antarctica. Tim Covino is assuming a postdoctoral fellowship at Duke University. One will remain at MSU and another is off to Sweden to serve in postdoc research positions. Tyler Smith, a Great Falls native, is now an assistant professor at Clarkson University in Potsdam, New York. I was able to catch up with a few of the graduates and their faculty mentors and here is a brief summary of what they are currently doing.

Justin O'Dea is working as a county extension agent for Cornell University in his home state of New York. With a master's degree in LRES, O'Dea focused on agronomy, soil science, and ecology. His advisor was Perry Miller, a LRES professor. "It was the excellent committee that pushed me," shared O'Dea. "I was always challenged and they put a lot of effort into me. They pushed me to be a scientist with a high degree of integrity and skill," he added. LRES is a diverse department with a supportive and cohesive environment. "We were able to find interest in each other's work, and it motivated us," added O'Dea.

Tyler Brummer has been accepted into a fully funded Ph.D. program at Lincoln University located in Christchurch, New Zealand and will be associated with Landcare Research, a government organization overseeing ecological and natural resource programs. Brummer is working at MSU until his program starts in February.

Jerome Schleier III, originally from Salem, Ore., graduated in May with a doctorate in ecology and environmental sciences and was offered a choice of positions in Dow Agro Sciences in Zionsville, Indiana. He selected a position as a scientist helping develop new technologies for pesticide formulations and applications. "I get to use everything I learned at MSU," commented Schleier. While sharing how much he enjoys his job, he is quick to credit the faculty in LRES for helping him achieve this position. Bob Peterson, LRES professor, served as Schleier's advisor for nearly 6 years. "I couldn't have asked for a better education. The faculty, the experience, all of it...I wish I could turn the clock back and do it all again!"

Lesley Noelle Orloff is a MSU research technician focused on the ecology and management of rangeland weeds, especially revegetation. According to LRES professor Jane Mangold, “Orloff is a valuable asset to the weed ecology program due to her ability to recognize the complexity of weed management and implement research that teases apart those complexities to come up with applied solutions.” Originally from Illinois, Orloff attended the University of Montana and received her bachelor’s degree in Natural Resource Conservation. Orloff enjoys her position as a MSU research technician, because in her words, “it is like solving a puzzle every day.” The Montana community affords Orloff the opportunity to work in rural communities where she finds others willing to share their knowledge about the land they grew up with.

Mac Burgess met Perry Miller, LRES professor in 2006 at a conference in Memphis, Tenn., and earned his Ph.D. in April. Burgess writes, “I was impressed by his practical approach to agricultural research, and we shared common research interests. Perry spends a lot of time talking to farmers, doing applied research that is immediately relevant to their needs, and sharing the results with MSU students. I was fortunate to have the opportunity to share in all aspects of his research projects, and learned a lot about challenges and rewards of farming in the northern Plains.” Burgess is now a Penn State project manager investigating the value of different cover crops in Pennsylvania dairy feed production.

James Meadow started his graduate program with LRES professor Cathy Zabinski with the goal of advancing soil ecology research in ecological restoration. He is working as a postdoctoral research associate at the Biology and Built Environment Center at the University of Oregon and shared the following:

“I was very attracted to the microbial ecology research being done in Yellowstone, and delved in upon noticing soil research in this fascinating system was underrepresented. I came away with an understanding of soil science, plant and microbial ecology, microbiology, statistics, and also teaching. The flexibility and inherent interdisciplinary nature of our department allowed me to broaden my research when new opportunities arose.”

Fred Pollnac, studied invasive plant ecology and credits his committee members

with helping him become not only a better scientist, but better able to share his research through frequent presentations. “I always felt my committee wanted nothing more than for me to succeed in my program and to produce quality research which would be of value to the scientific community. They helped me to achieve both of those goals in a very positive manner,” offered Pollnac a postdoctoral researcher at MSU with LRES professor Lisa Rew.

As the emails flow back and forth across the U. S. my computer buzzes with an incoming Skype™ call. Marie Sabacka, recent doctoral graduate from MSU – originally from the Czech Republic is skypeing from her house in Cambridge, U.K., Sabacka received a master’s degree from the Center for Polar Ecology in Prague. While completing her master’s in Prague she frequently consulted the research conducted by LRES professor John Priscu. During one of her frequent reviews of his online website she noticed he was looking for a doctorate student in glacier microbiology. She applied for the position and started working on her doctorate at MSU in 2005. Sabacka traveled extensively to Antarctica with research teams from here. She is now working in Cambridge for the British Antarctic Survey as a glacier microbiologist and biogeochemist and will spend 5 months this winter in the South Orkney Islands of Antarctica.

John Priscu, professor in LRES and faculty advisor for Marie Sabacka believes that the diversity of the LRES programs helps students successfully transfer into the “real world.” According to Priscu, “students will often encounter situations where the diversity of scientific disciplines they were exposed to in LRES allows them to make well-informed decisions.” Other faculty members echo his sentiment.

LRES professor of soil science and extension specialist Clain Jones, believes the unique opportunities to work and study in diverse places like the Antarctic, Arctic, Yellowstone National Park, and incredible agricultural fields and rangelands in Montana makes the LRES program at MSU highly competitive. “High interest in the program has allowed us to select top notch students who excel and very frequently obtain first author publications from their research,” added Jones. This year’s graduates certainly attest to that success.

For more information on the LRES programs please visit their website at <http://landresources.montana.edu>.

WHERE ARE THEY NOW?

Master of Science Degrees

- Dustin Anderson: environmental scientist for Tetra Tech
- Joy Barsotti: research technician for USDA/ARS
- Tyler Brummer: Ph.D. candidate at Lincoln University in Christchurch, New Zealand
- Benjamin Dorsey: Ph.D. candidate at University of Alberta in Edmonton
- Leslie Jones: biologist for the U. S. Geological Survey Northern Rocky Mountain Science Center
- John Mallard: Ph.D. candidate in Eco-Hydrology at Duke University
- Ann McCauley: Department of Environmental Quality in Helena, Mont.
- Justin O’Dea: Cornell University Extension Agent
- Lesley Noelle Orloff: MSU research technician
- Matthew Scrafford: Ph.D. candidate in Wildlife Biology at the University of Alberta
- Russell Smith: restoration consultant in Livingston, Mont.

Doctoral Degrees

- Melissa Bridges, University of Warwick, United Kingdom: postdoctoral research
- Macdonald Burgess, Pennsylvania State: postdoctoral research
- Tim Covino, Duke University: postdoctoral fellowship
- Christian Klatt, Swedish University of Agriculture Sciences: postdoctoral research
- James Meadow, University of Oregon: postdoctoral research
- Randall Mullen, University of Alaska-Fairbanks: postdoctoral research
- Fredric Pollnac, MSU: postdoctoral research
- Marie Sabacka, British Antarctic Survey, Cambridge, UK: Glacier Microbiologist/Bio-geochemist and part-time for the Center for Polar Ecology in the Czech Republic
- Jerome Schleier, III: scientist for Dow Agro in Zionsville, Ind.
- Tanya Skurski, University of Nevada-Reno: postdoctoral research
- Tyler Smith, Clarkson University in Potsdam, New York: assistant professor