

Bringing Research to LIFE

In brief

ResearchLIFE

The winter 2011 issue of *ResearchLIFE* is now available. The fifth issue includes features on aging drivers, the new Regenerative Medicine Program and molecules from the micro to macro scale.

Also in this issue: CIHR president Alain Beaudet provides insights into health research in Canada. Look for the new issue in your mailbox or stands around campus.

Upcoming events

PUBLIC LECTURE

RESPONDING TO THE HIV/AIDS EPIDEMIC IN AFRICA AND INDIA: SUCH A LONG JOURNEY

With **Dr. Stephen Moses**, recipient of the 2010 Dr. John M. Bowman Memorial Winnipeg Rh Institute Foundation Award

Wednesday, February 9, 2011
8:00 pm

Robert B. Schultz
Lecture Theatre
St. John's College,
Fort Garry Campus

Everyone welcome
Free admission
For parking information
call (204) 474-9483

For more information, visit
umanitoba.ca/research/rh_lecture.html

Bringing Research to LIFE Speaker Series

Religious and Other Rights: What Happens When They Collide?

With Prof. Karen Busby

Wednesday, February 16, 2011
7:00 pm

McNally Robinson Booksellers
1120 Grant Avenue

FREE ADMISSION
EVERYONE WELCOME

To assist us in planning seating,
RSVP to: Research_Communications@umanitoba.ca or (204) 474-9020
More info:
umanitoba.ca/research/brtl.html

Opening Our Eyes on Pesticides

Soil scientist advances pesticide education and research

BY CRYSTAL JORGENSON

Pesticides are among the most commonly used chemicals in the world and have long been an important tool for farmers. They are applied to protect crops from insects and weeds, and used to control pests that are disease vectors or that attack livestock. And as long as pesticides have been used, scientists have sought to learn more about their impact on our environment and our health, from the controversial insecticide DDT of yesteryear to today's common lawn and garden chemicals.

Determining standardized and more rapid ways to measure pesticides in Canadian water and soil is a primary research focus for Annemieke Farenhorst, professor in the Department of Soil Science. But she and a team of University of Manitoba researchers have also taken on the challenge of improving agricultural pest management practices in rural communities in Costa Rica, Honduras and Nicaragua.

"In Costa Rica, the average application rate of pesticides is 51 kg per hectare. In Canada we only apply 0.9 kg per hectare," notes Farenhorst.

"Some of the small land owners cannot read, so if they buy pesticides, they cannot read the labels," says Farenhorst. She said this leads to use of an inappropriate pesticide or incorrect use. "They also don't wear protection. It's either too hot to wear or too expensive. And in some communities, the women apply the pesticides, sometimes while carrying their babies with them."

Farenhorst, with her collaborators Laura Sims, David Lobb and Martin Entz, developed "Community-based Pest Management in Central American Agriculture", a six-year project funded by the Canadian International Development Agency in response to frequent occurrences of pesticide toxicities in rural communities, elevated pesticide residues in food, and environmental pollution.

"Every farmer has a story about (pesticide) intoxication. One farmer couldn't speak for a whole day because his tongue was so swollen and he had terrible headaches because of exposure to chemical."

The project, which wraps up in 2012, includes community, technical and policy initiatives that involve Central American governments and educational institutions. University students from Honduras, Nicaragua and Costa Rica live with local farmers to observe how pesticides are being used and to identify solutions to their challenges. University of Manitoba students have also visited the region as part of their studies. Through this engagement, team members have helped the communities develop safer practices for handling, applying and storing pesticides.



Submitted Photo

Researcher Annemieke Farenhorst from the Department of Soil Science is part of a U of M team studying pesticides in the rural communities of Central America.

"In Honduras, they did not have a recycling program for the empty pesticide containers. People would toss the containers on the land, in the rivers or in the well, or burn or bury them. We got the communities and industry engaged, and now there are recycling depots. The containers are taken away and used in making cement."

Farenhorst reports they have also encouraged community plots and composting, which has led to healthier crops and less pest pressures. Much of the other technical work is aimed at developing indicators at local and national levels which will guide the strategies and policies around environmental and human health.

Farenhorst and her U of M colleagues Sims, Lobb and Entz received the 2010 University of Manitoba Outreach Award for their work in Central America.

But the CIDA project is only part of Farenhorst's work. She also leads

and surface water contamination by pesticides. This tool will ultimately help in assessing environmental impacts and guide sustainable agriculture policy in Canada.

More locally, she has begun work on an online crop protection guide for Manitoba vegetable growers. Formerly a hardcopy document produced annually, the guide is now a searchable database that can be immediately updated when a new pesticide is introduced, helping Manitoba vegetable producers keep current in their operations.

But she continues to share her expertise internationally, and is now working with 12 Latin American countries, including Columbia and Argentina, to develop pesticide modeling and data collection specific to their landscapes.

"I love working with people from other parts of the world - you learn a lot. Your eyes are opened."



Submitted Photo

University professors, government officials, farmers, and students from Canada, Costa Rica, Honduras, Nicaragua and Paraguay met in Nicaragua in 2010. The CIDA project to improve agricultural pest management practices has been led by a team from the University of Manitoba