



News Release

April 25, 2003

U of G receives seven premier's research awards

Seven more University of Guelph professors have received Premier's Research Excellence Awards (PREA), designed to allow gifted young faculty to expand the scope of their research and attract talented people to their research teams. To date, 26 Guelph professors have won the awards, worth more than \$4 million when matching funds are included.

The announcement was made this week by Jim Flaherty, Minister of Enterprise, Opportunity and Innovation, who recognized 131 researchers across Ontario. Winners receive \$100,000 each from PREA and \$50,000 in matching funds from their university. "This is an investment in the next generation of excellence at our university and in all of Ontario," said Alan Wildeman, vice-president (research). "The awards emphasize the breadth of basic and applied research programs under way at Guelph – programs that continue to push the boundaries in areas such as health, agriculture and the environment." The most recent U of G PREA winners are:

- France-Isabelle Auzanneau, Department of Chemistry and Biochemistry
- Marica Bakovic, Department of Human Biology and Nutritional Sciences
- Nicholas Bernier, Department of Zoology
- Jinzhong Fu, Department of Zoology
- Robert de Loe, Department of Geography
- Coral Murrant, Department of Human Biology and Nutritional Sciences
- Manish Raizada, Department of Plant Agriculture

"The award will significantly improve the quality of my research," said human biology and nutritional sciences professor Marica Bakovic, who is working with a new discipline of science called "nutritional genomics" or "nutrigenomics" to study the interactions between nutrition and genes. "I will be able to have more graduate students and post-doctoral researchers working on this very new and exciting project, who will hopefully help us to establish a leading role in the area."

Zoology professor Nicholas Bernier added that his PREA award has already enabled him to attract three graduate students to his program and obtain specialized technical help to develop new analytical techniques. "It has brought a great deal of flexibility to my laboratory, allowing me at once to both take advantage of opportunities and strategically plan the development of my research program."

The PREA program was established in 1998 by the provincial government to boost investment in innovative research. To date, 509 Ontario researchers have received \$76.2 million in awards from the Ontario government and its partners.

Summaries of Research Projects by U of G's Latest PREA Winners:

France-Isabelle Auzanneau, Department of Chemistry and Biochemistry, is establishing a carbohydrate research centre for modelling, creating and testing carbohydrate-based drugs to combat cancerous tumours. She is creating

carbohydrate-based therapeutic vaccines that will trigger recognition of cancerous cells by the immune system and help to destroy them. The research centre consists of a computer modelling facility used for drug design, an organic chemistry facility to synthesize the drugs and a biochemical testing facility to pit the antibodies produced by the immune response against their tumour cell targets.

Marica Bakovic, Department of Human Biology and Nutritional Sciences, is studying choline – an essential nutrient required for normal cell function – and how its transport is regulated through the body in normal and disease states. Alterations in cell membranes and abnormalities in choline uptake and metabolism are major contributing factors to disorders such as Alzheimer's disease and cardiovascular disease. The holder of a Canadian Institutes for Health Research grant on the expression of lipid genes, Bakovic hopes the PREA award allows her to bring her nutrigenomic research to the same level as her lipid work and effectively compete in the rapidly growing field of molecular nutrition.

Nicholas Bernier, Department of Zoology, is studying how stress affects the appetite and growth of fish, which has significant economic consequences. Currently, intensification of aquaculture practices and the accumulation of environmental contaminants are creating conditions that are challenging to the well-being of fish. However, knowledge of the biological mechanisms responsible for the appetite and growth-suppressing effects of stress is limited. Bernier will work to quantify the expression of key growth and stress-related genes, investigate how they are regulated and to study the impact of environmental stressors on feeding activity.

Rob de Loe, Department of Geography, is the holder of a Canada Research Chair in Rural Water Management and studies rural water quality and watershed management. His research relates to decision making and environmental policy evaluation in the water resources management field. The focus is on local capacity for water management, water allocation and drought contingency planning, adaptation to climate change, and ground water protection. de Loe also studies flood plain management, the history of water management, and irrigation, and is a member of the U of G-based Rural Water Management Group, which researches water-supply problems in rural areas.

Jinzhong Fu, Department of Zoology, is studying the loss of biodiversity. His research aims to better understand how biodiversity was generated and how to scientifically assess it, examining biodiversity from a historical and molecular perspective. His research targets the boundary between populations and species, where speciation takes place, by testing genealogical hypotheses and determining levels of gene flow among populations.

Coral Murrant, Department of Human Biology and Nutritional Sciences, studies the integration of skeletal muscle function and blood flow with an emphasis on the interactions between skeletal muscle cells, vascular smooth muscle cells and endothelial cells.

Manish Raizada, Department of Plant Agriculture, is developing new technologies to pinpoint the genes responsible for regeneration in plants and to learn more about the environmental cues that cause those genes to switch on or off. The new technology will allow researchers to decode plant genes to understand why they are different from each other and learn more about the environmental cues that cause those genes to switch on or off. The ultimate goal is using the knowledge to enhance plant breeding and agricultural practices.

For media questions, contact Communications and Public Affairs: Lori Bona Hunt, (519) 824-4120, Ext. 53338 or Rachelle Cooper, (519) 824-4120, Ext. 56982.

