



## **CCARM Recognized with Renewed NSERC Funding**

The Natural Sciences and Engineering Research Council of Canada (NSERC) recently invested more than \$13.7 million in new funding to Manitoba Researchers, including three from the Canadian Centre for Agri-food Research in Health and Medicine: Drs. Michel Aliani, Carla Taylor and Peter Zahradka.

Aliani's NSERC-funded project looks at flavor formation and heat reactions in meat products supplemented with pulse flours. This research will help inform ways to potentially adjust enzymes that react adversely to cooking heat for instance, the effects of which can compromise the ideal flavor profile preferred by consumers. His state-of-the-art flavouromics laboratory will be building a database of flavor precursors and attributes as a way to add further value to the pulses market and help expand the selection of healthy,

sustainable and desirable food products for consumers.

Taylor's NSERC Discovery program studies the role of dietary zinc and dietary lipids (fats) in immune cell function and metabolism and is also investigating the effects of dietary fats on fat cells and immune cells in fat tissue. The research program will train 4 graduate students and 5 undergraduate students and will build capacity in Canada for fundamental research on nutrition and metabolism, and the biology of immune cells and fat cells.

Zahradka is looking at adiponectin – a hormone secreted by fat tissue that helps keep the liver, skeletal muscle, pancreas and blood vessels healthy. When a person becomes obese, their fat cells no longer make as much adiponectin and it's been suggested that the negative effects of obesity are caused by a lack of adiponectin. One of the key functions of adiponectin is to help control blood sugar (glucose) levels. This means that adiponectin works with insulin in controlling glucose production by the liver. Less adiponectin in obesity may be the reason insulin levels have to increase to keep glucose levels in check. We have been studying how insulin works to control glucose for over 25 years, but no one has looked at how adiponectin helps. It's hoped this project will provide the first mechanistic evidence of a direct interaction between insulin and adiponectin in the regulation of glucose production by the liver and add to our understanding of the cellular processes that are critical for efficient liver function.