



CDHF visits the University of Guelph's Department of Food Science!

Big things are happening in food science!

Dr. Michael Rogers and his associates Dr. Gisèle LaPointe, Dr. Paul Spagnuolo of Guelph University have been donated a TIM-1 (which is a super cool, computer controlled gastrointestinal system) simulates the movement of food and conditions in the upper GI tract.

A TIM-What now?

TIM-1 consists of four serial compartments interconnected by valves, which enable the controlled transit of chyme (the liquid substance created after gastric juices are mixed with the food we eat) through the system, as well as peristalsis, the involuntary contraction of smooth gastrointestinal muscles that causes food/chyme to move through your digestive tract. During a simulated digestion, TIM-1 can continuously add parameters such as body temperature, electrolytes, gastric acids, pancreatic enzymes and bile salts at pre-defined rates.

The TIM-1 system has been extremely well correlated to *in vivo* human studies making it the most accurate *in vitro* gastrointestinal model to test bio-accessibility for both pharmaceuticals and nutrients.

It is the only computer-controlled gastrointestinal system in the world that measures both particle size and viscosity during digestion. How cool is that!

CDHF hopes to develop a reciprocal partnership with University of Guelph's Department of Food Science that enhances our knowledge and subsequent educational initiatives, and explores GI-related research activities to improve the outcomes of individuals suffering with GI disorders.

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A bit about our hosts:

Dr. Michael Rogers joined the Department of Food Science in 2014 after holding faculty positions at Rutgers University and the University of Saskatchewan and as the Center Director for the Gastrointestinal Physiology Center at New Jersey's Institute of Food, Nutrition and Health. In 2016 he was awarded a Canada Research Chair in Food Nanotechnology. He has published 75 papers, 17 book chapters and 50 conference presentations on molecular gels, self-assembly of nano-fibers and nanotechnology, focusing on delivery of bioactives and the biophysics of digestion.



UofG's very own TIM-1!



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Dr. Gisèle Lapointe holds the NSERC/Dairy Farmers of Ontario Industrial Research Chair in Dairy Microbiology at the University of Guelph. She has over 20 years of teaching and research experience in food microbiology, biotechnology and food applications of microbial molecular genetics, using systems approaches for studying microbial ecology. Her research aims towards understanding how food components modulate the metabolic activities of microbiota in food and human microbial ecosystems. Her goal is to improve the quality and functionality of food, with a special focus on milk and dairy products.

Dr. Paul Spagnuolo is an Associate Professor at the Department of Food Science, University of Guelph. His research focuses on the development of novel therapeutics for the treatment of acute myeloid leukemia (AML) with specific emphasis on nutraceuticals (i.e., food-derived bioactive compounds). His lab has discovered 4 novel anti-cancer agents, filed 3 patents and has initiated a Phase I Clinical Trial in health human subjects. He is a member of the Ontario Stem Cell Initiative and the Stem Cell Network and he also sits on the Board of Directors for the Natural Health Products Research Society of Canada.



About CDHF

We are the trusted resource on digestive health. Because we are the Foundation of the Canadian Association of Gastroenterology, we are directly connected to Canada's leading digestive health experts, physicians, scientists and other health care professionals. You can trust us to provide you with practical, science-based information that is up to date and unbiased.

Our Mission

To reduce suffering and improve quality of life by providing trusted, accessible, and accurate information about digestive health and disease

Our Vision

To empower all Canadians to manage their digestive health with confidence and optimism

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