

A Look at **Top** Canadian **Researchers** from **Coast to Coast**

The Advanced Foods and Materials Network (AFMNet) is Canada's national food and bio-materials research network. We bring together researchers of all sorts — from natural scientists, to engineers, to health researchers to social scientists — to develop new technologies and products that benefit Canadians. Let's meet three of them now:

NAME DÉRICK ROUSSEAU

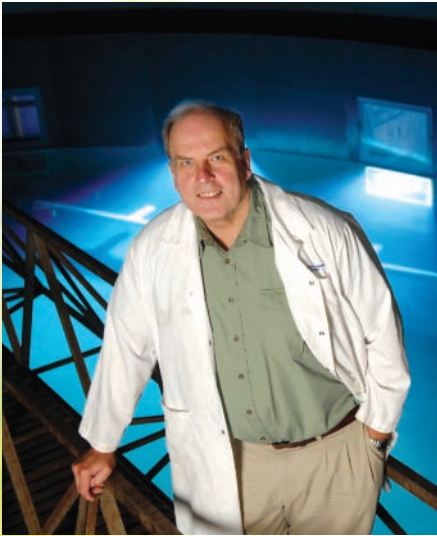
LOCATION Ryerson University in Toronto, ON

RESEARCH GOAL To create a "salty" taste without using much salt.

Dérick Rousseau is helping the processed food industry develop effective ways of making foods like pizza, cheeses, breads and soup taste salty using less salt. Studies show that reducing salt content in food by 20 to 30 per cent can lead to substantial reductions in healthcare costs by helping to decrease the risk of high blood pressure and heart disease. However, what typically results is a bland taste. Rousseau and colleagues are using the concept of controlled release — similar to that found in over-the-counter acetaminophen-timed release capsules, for example — to simulate the experience of a "salt hit" so that using less salt will have the same impact on taste as that of a larger amount. Not only is salt reduction important for maintaining the health and well-being of Canadians, but by using normal table salt — as opposed to salt substitutes — researchers are providing food manufacturers with a cost-effective way to maintain product acceptance, quality and safety.



Ernesto DiStefano



Danny Abriel

NAME TOM GILL

LOCATION Dalhousie University in Halifax, N.S.

CUTTING EDGE RESEARCH To use fish peptides and genetics to spark personalized disease treatment.

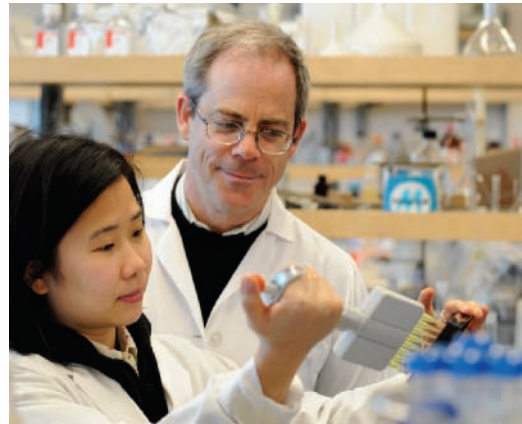
Diabetes, obesity and cardiovascular disease (CVD) are three of Canada's major public health problems. Studies have found fish proteins have the potential to prevent these epidemics from escalating. Now, a group of researchers from across Canada is going one step further. They're collaborating to identify specific fish peptides that will reduce the prevalence of these diseases and allow for more personalized treatment. Prof. Tom Gill from the Canadian Institute of Fisheries Technology at Dalhousie University will be working with Prof. André Marette, a faculty member in the Department of Medicine at Laval University, to use specific fish peptides to improve insulin resistance and reduce inflammation — the known causes of diabetes and CVD. They are also working to identify certain genes affected by the diseases and specific genes that react to treatment from the peptide. This means patients could receive more personalized and focused treatment.

NAME DAVID KITTS

LOCATION University of British Columbia in Vancouver, B.C.

RESEARCH GOAL To ensure Canadians achieve recommended levels of folate in their diet without experiencing the possible negative effects of folic acid.

University of British Columbia Professor David Kitts and colleagues are looking at ways to use a reduced form of folate (one of the B vitamins), called L-5-methyltetrahydrofolate (L-MTHF), as an alternative to folic acid in food fortification practices. Due to insufficient dietary folate intake, folate deficiency can result in an increased risk of acute and chronic disease, most notably neural tube defects such as spina bifida in a developing fetus. Low folate may also be associated with risks to cardiovascular disease. Since 1998, Canada has supported mandatory fortification of flour with folic acid (a synthetic form of folate), but research suggests there may be possible health concerns associated with consuming excessive amounts of folic acid, such as masking a Vitamin B12 deficiency. AFMNet researchers are finding ways to stabilize the less stable L-MTHF so that it can be used as a replacement to folic acid. Once L-MTHF has been successfully developed in a capsule form, a clinical study is planned to take place in Southeast Asia where populations are predisposed to folate deficiency.



Martin Dee

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