

FIHRI

Food Ingredient & Health
Research Institute



...Improving Human Health
One Person at a Time

Spring NEWSLETTER

FIHRI MISSION

The mission of the non-profit Food Ingredient and Health Research Institute (FIHRI) is to eliminate harmful contaminants in food and food production through research and consumer education.



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FIHRI'S Newest Publication Now AVAILABLE!

Our newest publication is now available online in the open-access, peer-reviewed **Integrative Molecular Medicine** (IMM) journal. FIHRI has long been concerned about the adverse health effects associated with exposure to inorganic mercury from processed food consumption, and has previously reported the findings of mercury contamination in samples of high fructose corn syrup (HFCS). Now, in this new publication, FIHRI presents recent clinical trial evidence that connects inorganic mercury exposure from the consumption of processed food with the Type-2 diabetes epidemic in the United States. In this new research article titled, "[Blood inorganic mercury is directly associated with glucose levels in the human population and may be linked to processed food intake,](#)" FIHRI Founding Director, Renee Dufault and co-authors, employ a macroepigenetic approach to explain gene-environment interactions in the development of Type-2 Diabetes.

Macroepigenetics is a theoretical, consumer friendly approach that allows laypeople to consider how factors of nutrition, environment and gene expression interact to contribute to the development or prevention and inheritance of disease. In the recent clinical trial, Professor Dufault delivered an online nutrition intervention course to students at the Fort Peck Community College in Montana. Students reduced their consumption of processed foods and this resulted in significant reductions in their fasting glucose and lower blood inorganic mercury (I-Hg) levels. FIHRI researchers then analyzed CDC data and found a positive association between inorganic mercury and fasting glucose in the American population (sample size = 16,232). Don't miss this critically important new information on the toxic invasive substances in our food supply and their impact to our health and wellbeing. Click [here](#) for your free access, now!

In the model to the right, you can see that with the consumption of processed foods, I-Hg levels rise in the blood and this creates conditions for the development of hyperglycemia. As glucose levels rise, the development of type-2 diabetes is inevitable without interventions. Consumption of HFCS may also lead to obesity and increased risk of diabetes.

Macroepigenetic Model for Role of I-Hg in Glucose Homeostasis and Type-2 Diabetes



FIHRI Director Speaks at Health and Culture Symposium

Dr. Raquel Crider travelled to North Carolina to represent FIHRI at the second annual Health and Culture Symposium. This year the symposium was sponsored by West Carolina University which was also where the conference took place from April 8-10, 2015. The purpose of the conference was to encourage networking between Native American researchers and others with skills and resources for use in addressing some of the health problems encountered by Native American communities. Attendees came from Alaska, North Carolina, New York, Washington DC, and other areas. Professor Dufault prepared a short power point for Dr. Crider to share with the attendees on what we currently know about the heavy metal residues in the processed food supply. At the gathering, Dr. Crider discussed research showing selected foodstuffs were the possible sources of heavy metal exposures such as lead. Lead in human blood is indicative of lead exposure which is a risk factor for ADHD and developmental delay. We know that children with ADHD and autism tend to bio-accumulate lead. The presentation was well received with questions ranging from contaminants in baby food to possible solutions such as organic farming.

To see last year's presentation by Professor Dufault, please visit the Smithsonian Institute website and click on the link to the video presentation. During the presentation, Professor Dufault talks about the role of inorganic mercury as a preservative in the food supply and its impact on gene behavior leading to the development of Type-2 diabetes. Don't miss this informative video brought to you by the U.S. government! Click here for [video](#).

FIHRI Has New Volunteer Executive and Development Directors!

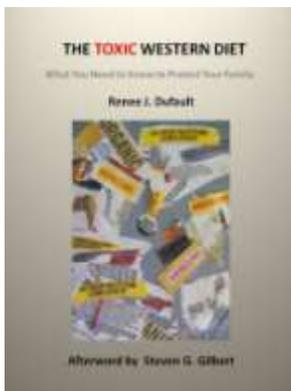
Professor Dufault has stepped down from her leadership position at FIHRI as she is moving to Saudi Arabia to teach biology. She will still support FIHRI's mission by serving as a Director on the Board. Prof. Dufault will continue to take care of FIHRI's financial affairs as the Founding Executive Director and serve as volunteer Development Director. Meanwhile, Zara Berg, M.S., has stepped up to serve as our new volunteer Executive Director. Zara will manage board meetings and help carry out action items created by the Board of Directors. Zara first learned of FIHRI's mission and work while teaching science at the Fort Peck Community College in Montana in 2011. She comes to FIHRI with terrific experience in conducting community based clinical

research. With a Master's degree in interdisciplinary toxicology from Texas A & M University, she is well qualified to help direct FIHRI's operations. Zara is currently enrolled at the University of Hawai'i and pursuing her PhD degree in clinical research. Thank you Zara for stepping up as FIHRI continues to grow its mission!

Parent Nutrition Tutorial in Development for Use in Study

Professor Dufault is developing six online modules of instruction for use during a clinical trial sponsored by FIHRI. Each module will include a reading assignment from a text book, a link to a recommended video and/or resource, a link to the tutorial discussion forum, resources, and assigned activities to help parents prepare healthier meals. The tutorial is designed to help parents facilitate healthy family dietary changes in the home environment, which may lead to improvements in child behavior. The textbook

is titled, "The Toxic Western Diet," and will serve as a guide for parents of learning disabled children to learn about the gene-environment interactions that impact their child's behavior and learning. Recruitment of parents to participate in the trial will begin in August or September 2015. Visit us at: www.foodingredient.info



To support FIHRI's education and research efforts,
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