Nutrigenomics -- developing personalized diets for disease prevention

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The emerging field of nutrigenomics, which aims to identify the genetic factors that influence the body's response to diet and studies how the bioactive constituents of food affect gene expression, is explored in a series of provocative, interdisciplinary reports and analyses in the December 2008 Special Issue (Volume 12, number 4) of *OMICS: A Journal of Integrative Biology*, a peer-reviewed journal published by Mary Ann Liebert, Inc. (www.liebertpub.com). The issue is available free online at www.liebertpub.com/omi

This compendium of papers describing the innovative new area of study encompassed by nutrigenomics research is Part 1 of a two-part series. Part 2 will be published in Spring 2009.

Nutrigenomic's bidirectional approach to investigating how the genetic traits of an individual or population interact with their diet offers many possibilities for targeted clinical interventions and preventive medicine. These may include modifying either diet or the biochemical response to food exposure to prevent disease in individuals shown to be susceptible to the consequences of unfavorable dietary/genomic interactions. In the future, nutrigenomics may potentially help guide the development of customized diets based on an individual's genetic make-up.

"In contrast to previous applications of genomics technologies where the goal is to distinguish existing disease from absence of disease, nutrigenomics aims to discern nuanced differences in predisease states such that personalized dietary interventions can be designed to prevent

or modify future disease susceptibility," write Guest Editors Béatrice Godard, PhD, and Vural Ozdemir, MD, PhD, from the Department of Social and Preventive Medicine, University of Montreal, Québec, Canada.

"Nutrigenomics opens new and amazing frontiers in 21st century biomedical and clinical research," says Eugene Kolker, PhD, Executive Editor of *OMICS* and Chief Data Officer at Seattle Children's Hospital, Seattle, Washington.

Source: Mary Ann Liebert

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