

## In This Issue

Global Threshold Project ..... 1

The Significance of  
Waist Circumference ..... 1

From the Board:  
ILSI's Strategic Plan ..... 1

[2010 ILSI Annual Meeting:  
Registration Deadlines](#) ..... 2

[Promoting Health with  
Polyphenols](#) ..... 3

[Biotechnology Outreach](#) ..... 3

[New Publications](#) ..... 8

[Early Nutrition and Obesity](#) ..... 9

[In Remembrance](#) ..... 9

[2010 ILSI Annual Meeting:  
At-a-Glance Program](#) ..... 10

[Calendar](#) ..... 10

## 2009 ILSI Executive Committee

Dr Mike Knowles, President  
Dr Peter van Bladeren, Vice President  
Dr Barry Zoumas, Chairman  
Dr Sushila Chang, Vice Chairman  
Dra Sara Valdés Martínez, Secretary  
Dr Catherine Woteki, Treasurer  
Dr Marc Bonnefoi, Member-at-Large  
Dr John Doull, Member-at-Large  
Dr Shuichi Kimura, Member-at-Large  
Dr Geoff Smith, Member-at-Large

## ILSI Executive Director

Dr Suzanne Harris

## ILSI Director of Communications

Mr Michael Shirreffs

## ILSI Research Foundation Global Threshold Project: Publication of Key Concepts an Important Step Forward

As advancing analytical technology leads to the detection of trace quantities of an expanding universe of substances in commercial products and the environment, there are increasing demands on many industries and regulatory authorities to address the risks from these potential exposures. However, exposure alone is not equivalent to risk; the dose-response relationship is critical. How should the dose-response relationship be studied at the very low doses that are relevant to everyday exposure? Is it possible to identify “thresholds”—or levels of exposure so low that risk is negligible?

The concept of a threshold for adverse effects is fundamental in regulatory toxicology, underlying basic values such as acceptable daily intakes, tolerable daily intakes, and reference doses and others. But recent reports have suggested replacing these values with quantitative estimates of risk generated by extrapolation from animal studies (with a linear extrapolation model as the default). The often-unstated premise is that there is some flaw in the science underlying the threshold concept. Furthermore, it is assumed that accurate quantitative estimates of risk can, in fact, be made in this way; the experience of the scientific/regulatory community with estimating cancer risks by using extrapolation models indicates otherwise.

[—See GLOBAL THRESHOLD on page 7](#)

## ILSI Focal Point in China Raises Awareness on Waist Circumference

Overweight and obesity are important independent risk factors for hypertension, diabetes, and other chronic diseases. The prevention and control of obesity and associated conditions have become one of the most important public health challenges worldwide. As part of its ongoing program to better understand obesity, especially within the Chinese and Asian context, the ILSI Focal Point in China held a conference in June 2009 in Beijing with a unique focus on waist circumference as a risk factor and its use as a tool to combat overweight and obesity. The conference also delivered the latest research on weight-control interventions and sought to promote multidisciplinary cooperation both on basic obesity-related research and on programs and policies that use current scientific knowledge.

[—See WAIST CIRCUMFERENCE on page 6](#)



## From the Board: Requesting Your Input on the ILSI Strategic Plan

Four years ago, the ILSI Board of Trustees took steps to begin outlining a three-year strategic plan to describe how to maximize ILSI's organizational structure and hone its scientific portfolio, so that ILSI, as a whole, would deliver on its mission to provide science for health and safety decision making.

[—See STRATEGIC PLAN on page 6](#)

## **Connect and Share on Local, Regional, and International Health and Science**

The ILSI Annual Meeting is an important event. It is the one time each year where the entire ILSI membership, Board of Trustees, and staff leadership can come together to review recent accomplishments and chart a course for future achievements. It provides the venue where ideas are shared on new science and on how existing science can be better applied. It is the place where the interconnections among local, regional, and international health issues are made.

**The ILSI Annual Meeting is the yearly venue where interconnections among local, regional, and international health and science issues can be identified face to face.**

**Join us in Puerto Rico to share your ideas of how ILSI can continue to make a difference.**

Important registration deadlines are approaching. ILSI members should take advantage of early bird specials soon.

### **Early Bird Discounted Member Registration: 11 December 2009**

Member registration link: <http://www.ilsa.org/Pages/2010AnnualMeeting.aspx>

### **Hotel Reservation Deadline: 5 December 2009**

Our meeting planners have advised us the hotel is likely to fill up early this year. Please make your hotel reservations as soon as possible. Hotel reservation link: <http://www.ilsa.org/Pages/HotelReservations.aspx>

The 2010 Annual Meeting will be one day shorter than in previous years, but the business and scientific programs will be just as rich. The At-a-Glance Program outlines the breadth of the topics ILSI will discuss. In addition, keynote speakers in the ILSI Assembly of Members will make presentations on how ILSI can improve food safety and help prevent and respond to food adulteration.

[See page 10 for the At-a-Glance Program and current speaker and topic details.](#)

# **Annual Meeting 2010** **22-27 January 2010**

*Puerto Rico*

Rio Mar Beach Resort & Spa  
a Wyndham Grand Resort  
Rio Grande, PR



## Polyphenols: Bioavailability, Bioefficiency, and Increased Consumption

This article was adapted from one provided by ILSI Southeast Asia Region. It is an excerpt from a conference summary originally published in their August 2009 newsletter. For the complete summary, see: [ILSI Southeast Asia Region August 2009 Newsletter](#)

Over the past 10 years, there has been an increasing interest in polyphenols and their role in human health. A significant volume of literature has been published on the potential role of polyphenols in the prevention of chronic degenerative diseases such as cardiovascular diseases and some types of cancers. The ILSI Southeast Asia Region and the Nutrition Society of Malaysia held a 2-day international symposium titled Plant Polyphenols: Nutrition, Health and Innovations, June 22–23, 2009, in Kuala Lumpur, Malaysia. The symposium featured an extensive program on the current state of knowledge of plant polyphenols in relation to their nutritive and health properties, harnessing technology, product innovation, claims regulation, and consumer education. Over 100 participants from a variety of industries and organizations worldwide gathered to hear presentations by leading scientists in a variety of research areas, including tea, coffee, nuts and seeds, cocoa, soy, fruits, vegetables, and spices.

Professor Gary Williamson, University of Leeds, United Kingdom, began the symposium by providing an overview of the vast varieties of polyphenols and their complex links to health. He highlighted the importance of polyphenol bioavailability and dosage levels, and discussed the absorption and use of these compounds as well as their mechanisms of action. Professor Kevin Croft, University of Western Australia, then elaborated on the analytical methods and assessment of biological activities of dietary polyphenols. Key methodological elements to be considered include the need to: (1) consider flavonoid metabolism as an important factor that influences the biological activity observed in *in vitro* studies; (2) determine the appropriate assays for antioxidant activity assessment; (3) evaluate the use of animal models for assessing effects of dietary polyphenols on atherosclerosis and cardiovascular disease; and (4) conduct human intervention studies and assays using specific biomarkers for assessing polyphenol absorption, oxidative stress, inflammation, endothelial function, blood pressure, and lipid metabolism.

Various speakers highlighted that epidemiological results are not always in agreement. Conflicting results might be to the result of different study designs and dosage levels, as well as the varieties of polyphenol-containing products studied such as tea, coffee, and cocoa. The composition and levels of polyphenols found in these products

[—See POLYPHENOLS on page 5](#)

## Biotechnology Collaboration in South America

In August, ILSI Research Foundation's new Center for Environmental Risk Assessment (CERA) held two very successful collaborative initiatives with ILSI branches in South America.



CERA, ILSI Argentina, and ArgenBio convened a workshop for regulators, risk assessors and scientists from public and private sector organizations in Buenos Aires, Argentina. The first day of the workshop included a series of presentations by invited speakers that introduced the science-based framework for problem formulation and explained how it may be applied to the environmental risk assessment (ERA) of genetically modified (GM) plants generally and more specifically to the evaluation of potential for adverse impacts of GM plants on non-target organisms (NTOs) due to out-crossing. The second and third days of the workshop were devoted to applying problem formulation to two case studies of GM products currently in development in Argentina: a drought tolerant maize and a nitrogen use efficient sorghum. The participants in days 2 and 3 were divided into two breakout groups and each member was provided with written case studies prior to the workshop that were prepared by the principal scientists developing these products, Dra. Raquel Chan and Dr. German Serino. Drs. Chan and Serino also presented their research to the group members in plenary sessions. Each breakout group then applied problem formulation to the case studies using the framework below and reported back to plenary.

The practical exercise of applying the problem formulation framework to the case studies led to an exchange of ideas during the plenary sessions. Some points of consensus were as follows:

**Problem formulation is not a trivial undertaking.** A risk assessor has to develop risk hypotheses that are relevant to the ERA of the subject GM event and guard against the practice of asking for data that may be scientifically interesting but irrelevant to the risk assessment. Most participants acknowledged that this is a challenge. It was recognized that problem definition is a model process to focus the ERA into a scientifically tractable problem.

For the ERA of GM crops, it is essential to refer to classical observations and consider the context of the problem being formulated and its basis in conventionally bred varieties, agronomic practices and productive systems.

[—See BIOTECH IN SOUTH AMERICA on next page](#)

## **Biotech in South America** *(continued from the previous page)*

Problem formulation should be applied as a risk assessment tool as early as possible in the product development process so that any potential adverse impacts that may be attributable to the subject GM event can be identified and taken into account as development continues. In order for this to happen, the management or protection goals in the targeted markets need to be clearly identified. While it is the responsibility of competent regulatory authorities to ensure that these goals are unambiguously articulated in legal instruments such as regulations, their definition should be achieved through stakeholder consultation as the consideration and prioritization of protection goals is typically a matter of policy. It is only after management and protection goals are established by policy makers, that regulators (and sometimes other risk assessors) can work to operationally define ecological entities of value and how they may be evaluated (i.e., problem context).

Problem definition can be improved if there is dialogue between regulators and product developers during the course of product development well in advance of the time when a dossier is prepared for regulatory submission. This is particularly true for new applications of genetic engineering to crop improvement so that problem definition can be addressed proactively instead of reactively, and regulations and/or associated guidance can be amended as required.

Product developers should be encouraged to make their research public as early as possible through peer-reviewed publication and/or other communication channels.

CERA, ILSI Brasil and EMBRAPA hosted a meeting of regulators and scientists from public and private sector organizations in Brasilia, Brazil. The purpose of the meeting was to twofold: (1) to follow on from the 2008 workshop on problem formulation in ERA of GM crops with additional discussions specifically related to NTO testing; and (2) to share experiences from within and outside of Brazil related to post-release environmental monitoring of GM crops.

The first day of the workshop included a series of presentations by invited speakers designed to set the context for ERA of GM crops in Brazil, reintroduce the science-based framework for problem formulation and then provide more detailed information about the application of problem formulation to NTO testing. This was followed by a panel discussion and questions/comments from the plenary. As discussed on day 1, problem formulation should be applied not only to ERA of GM crops but also to the development of post-release environmental monitoring plans. The application of problem formulation to NTO testing would be improved if there was consensus

## **Consensus Points on Biotechnology**

- **Problem formulation should be applied as a risk assessment tool as early as possible**
- **Protection goals in the targeted markets need to be clearly identified**
- **Problem definition can be improved if there is dialogue between regulators and product developers**
- **Developers should be encouraged to make their research public**

on: (1) criteria for selecting appropriate surrogate organisms; (2) criteria for developing NTO test protocols; and (3) species-specific protocols that are applicable to crop/trait combinations and receiving environments in Brazil. This will be assisted by ensuring appropriate baseline information is considered when making decisions about surrogate organisms as well as considering the predictive power of the selected species.

The second day of the workshop was devoted to discussion on post-release environmental monitoring (PREM) of GM crops with a series of presentations followed by a panel discussion with questions from the plenary participants. From the discussion on day 2, monitoring in Brazil needs to be better directed and caution should be applied to embarking on general surveillance programs as part of PREM where these cannot directly connect any observed variability to the cultivation of the GM crop. The application of problem formulation to the development of meaningful monitoring plans may be a way to achieve much needed consensus on what such plans should include. This may also be a means of ensuring that: (1) there is sufficient flexibility so that monitoring is applicable to the case in question by taking into account the approval for release granted by CTNBio (Brazil's national competent authority on biosafety); and (2) that monitoring requirements are scaled appropriately to the regulatory need.

This latter point is particularly significant for product developers who cannot afford to replicate the way post-market environmental monitoring is currently conducted by larger companies in Brazil as required by CTNBio.

For more information on CERA, contact Morven McLean:  
[mmclean@ilsi.org](mailto:mmclean@ilsi.org).

## Fostering Scientific Debate

At the ANBio VI Brazilian Biosafety Congress, held at Rio de Janeiro in Brazil in September 2009, the ILSI International Food Biotechnology Committee (IFBiC) organized a round-table panel: food safety of products derived from biotechnology.

Speakers from academia and industry spoke in the well attended session providing an overview of ILSI and CODEX Alimentarius' common goals related to food biotechnology safety and on the IFBiC Crop Composition Database, which has been a valuable resource for government agencies, academic institutions, and industries to evaluate food nutritional values including those derived from biotechnology crops. A particular focus of the discussion on the database was the inherent variability of composition in crop varieties and challenges to obtain similar or near-isogenic isolines for transgenic crops, which has made it increasingly difficult to establish a meaningful baseline for comparison.

Lively debate was initiated by two questions raised during the presentations. One was: with over ten years of safe use of food derived from modern biotechnology, is it necessary to perform the composition studies between input-trait transgenic and traditionally bred crops for safety evaluation? The second was posed by Bruce

**The round-table raised questions that reinforced the need to disseminate science to dispel misconceptions as well as improve risk assessment.**

Chassy, University of Illinois and program speaker, who noted that the safe use of Bt proteins in plant biotechnology had dramatically reduced cancer-causing mycotoxins in corn. Given the risk/benefit, Dr. Chassy wondered aloud why health officials do not more forcefully recommend Bt corn be eaten by humans and fed to animals.

The conversation following each question did not provide concrete answers. However, the discussion on inherent crop variability and the complexity it creates reinforced the need for tools like the ILSI Crop Composition Database for as long as comparisons are required. The debate also signaled a need to more widely disseminate existing science on the benefits of biotechnology (e.g., reduced mycotoxins) and to extend the reach of recent technological advances in sampling and analytical testing of biotechnology-derived food and feed.

For more information on IFBiC contact Marci Levine: [mlevine@ilsil.org](mailto:mlevine@ilsil.org)



### ***Polyphenols (continued from page 3)***

vary significantly depending on the genetic variations, growing conditions, and processing methods. Polyphenol consumption patterns, bioavailability, and metabolism may also affect their bioefficacy. In vivo studies are needed to examine polyphenol dosage levels, absorption, and metabolism in the desired products. One of the remaining challenges that must be overcome is determining how to conduct appropriate human-intervention trials to validate the health benefits of polyphenol-containing food products. Unlike trials of medicinal products in which active substances can often be administered in pill form, it is rather difficult to recruit participants who must refrain completely from certain foods or drinks and who would be willing to be randomly assigned to consume a test product or placebo for several years. To overcome the need for long-term intervention studies to observe disease development as the expected outcome, other possible alternatives include using validated biomarkers to predict a certain disease risk, or studying high-risk populations to shorten the time needed for the study. However, valid biomarkers have not been available in many cases, and including high-risk populations may not allow the study results to be extrapolated to the general population. Metabolomic techniques that could identify an individual's response to polyphenol intake might be a promising method for studying polyphenol mechanisms of action.

Dr Trevor Webb, Food Standards Australia New Zealand, stated that, as it stands, a food product must be tasty, safe, convenient to consume, and reasonably priced for it to be accepted by consumers before it can yield any health benefit. Constant innovations are necessary to preserve or enhance a product's polyphenol content and delivery system, while retaining a satisfactory organoleptic quality. Creative ways of introducing polyphenol-containing foods into consumers' diets are necessary to increase polyphenol consumption. For example, a culinary demonstration of an Earl Grey Tea Chicken recipe was showcased during the symposium. In the interest of public health, consumers should be informed of the potential beneficial effects of consuming polyphenol-containing foods. However, Dr Tee E Siong, Nutrition Society of Malaysia, emphasized that such information needs to be properly regulated and that the nutritive and health protective functions of polyphenols must be reasonably substantiated before claims can be made.

## Waist Circumference (continued from page 1)

The conference was cosponsored by the National Center for Chronic and Noncommunicable Disease Control and Prevention and the Institute of Nutrition and Food Safety of the China Center for Disease Control and Prevention. Professor Chen Chunming chaired the conference, at which 22 experts from Asia, Europe, and North America gave presentations on what is currently known about relationships between waist circumference and chronic disease throughout the lifecycle and the role of food and food ingredients in achieving healthy weight.



Professor Chen Chunming summarized the evidence presented at the conclusion of the conference, stressing that the data indicated even small increases in waist circumference can signal an increase in risk for chronic diseases and perhaps especially in Asian populations. The conference also raised important questions that need to be answered so that waist circumference is more widely recognized—in China and elsewhere—as a risk factor and tool for addressing overweight and obesity. For example, how do growth patterns in children affect the interpretation of waist circumference and what is an appropriate waist circumference in the elderly population?

Resolving these and other questions will be part of ILSI Focal Point in China's ongoing efforts to increase awareness of the importance of waist circumference among government agencies that set health policy; the food and beverage industry; and health professionals who help treat and manage obesity and related chronic disease.

Contact ILSI Focal Point in China to be a part of their important obesity work: [ilsichina@ilsichina.org](mailto:ilsichina@ilsichina.org)

## Strategic Plan (continued from page 1)

Since then, ILSI has made great significant progress on the core elements of the strategic plan. In particular, the ILSI leadership has made great strides in clarifying the roles and functions of the branches versus the Research Foundation and the international committees; the International Food Biotechnology Committee and the International Organizations Committee. To be sure, this effort and others are ongoing, especially since the goal is to raise awareness of ILSI and its work to ever broader audiences.

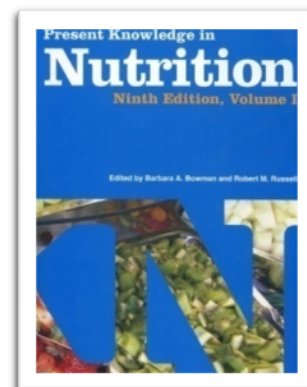
This year, the ILSI Board of Trustees, led by Barry Zoumas, Chair, and Mike Knowles, President, reviewed the 2007 to 2009 plan with an eye to develop a new plan that would articulate ongoing and new goals in a easy-to-understand and actionable way.

Past President John Ruff was recruited to spearhead the work. Mr. Ruff not only has the insights that come with corporate and association leadership, he also has an intimate knowledge of ILSI. Mr. Ruff's work, presented in draft form here, incorporates input provided by the ILSI Board of Trustee committees, including the ILSI Executive Committee; the branch executive directors; and the ILSI Research Foundation Board of Trustees. The full Board is reviewing the draft now, and will discuss it at Annual Meeting 2010.

**ILSI wants your input.** Please share your comments with us whether you work for an ILSI member company, are a university-based or government scientific advisor or observer, or have worked with ILSI in any capacity. [Previous and proposed strategic plans are on page 11.](#) Send your thoughts to Michael Shirreffs: [mshirreffs@ilsi.org](mailto:mshirreffs@ilsi.org).

## Digital Chapters Available for Purchase

ILSI is now offering digital chapters of the ninth edition of its landmark text, *Present Knowledge in Nutrition*. Ideal for supplementing teaching materials, these chapters provide the information instructors and students need in a convenient, searchable, electronic format!



Visit the ILSI website: [Present Knowledge in Nutrition](#)

## **Global Threshold** (continued from page 1)

To address these issues, the ILSI Research Foundation's Global Threshold Project convened an expert working group charged with analyzing the fundamental biological processes underlying human health effects from four broad categories of agents: chemicals, microbial pathogens, allergens, and nutrients. Out of this discussion has come the Key Events Dose-response Framework, a cross-disciplinary mode-of-action based analytical approach that systematically examines key (and necessary) biological and chemical events along the pathway between exposure/intake and the ultimate effect of concern.

Over the past several months, the working group has applied the Framework to each category of agent, demonstrated that a cascade of key events can be identified (or postulated) in each case, and characterized the factors influencing the dose-response (and possible existence of thresholds) for individual events and the overall pathway. The Framework offers a powerful tool for examining the underlying basis for dose-response relationships and applying that knowledge in safety assessment and standard-setting.

### **Papers published in *Critical Reviews in Food Science and Nutrition* describe the Key Events Dose-Response Framework for chemical, microbial pathogens, allergens, and nutrients.**

Five articles were published in the September 2009 issue of *Critical Reviews in Food Science and Nutrition* that describe a Key Events Dose-Response Framework for chemical, microbial pathogens, allergens, and nutrients. Based on the Mode of Action Framework, this new work provides an evidence-based approach for using our growing understanding of fundamental biology and mechanistic data to reduce reliance on default assumptions, to quantify variability, and to better characterize biological thresholds. These papers are available on the Research Foundation website (link at article's end).

The next critical step is to build additional case studies to support the key events framework, thus documenting its validity as a risk assessment tool. The key events framework, the broader Mode of Action paradigm together with the threshold of toxicological concern, a regulatory approach designed to focus attention on exposures that are most likely to cause public health concern, offer a strong rebuttal to the precautionary approach being advocated by some. The practical outcome will be to focus regulatory attention on those agents that are likely to have true public health impact, rather than scattering scarce

resources across a wide array of agents many of which present a negligible risk. The potential savings for governments and industry worldwide from such a new direction are enormous.

The ILSI Research Foundation's Phase 2 plan for the key events framework includes completing 5-7 case studies in 2010 and to highlight these at multisectoral workshops and professional society meetings around the world. Given limited staff at the Research Foundation, resources will be used to foster collaboration with experts from academia and government, as well as expert consultants, to aggressively achieve this goal.

Without these efforts, the Research Foundation believes risk managers may be forced to chase after ever diminishingly smaller quantities of contaminants for no real public health benefit. Please contact Steve Olin ([solin@ilsf.org](mailto:solin@ilsf.org)) if you are interested in supporting the Foundation's work to deliver a scientifically compelling solution that will leverage scarce resources to protect public health.

See the Global Threshold Project web page to download the articles: [Global Threshold Project](#)

---

## **HESI Calls for Partners on New Risk Assessment Program**

The ILSI Health and Environmental Sciences Institute (HESI) is calling for partners for a new program called "Risk Assessment in the 21st Century." This program is a joint effort between HESI and the ILSI Research Foundation, and is intended to initiate a proactive and constructive dialog of experts from industry, academia, the government and other stakeholders to draw attention to advancements in risk assessment with respect to several key areas including exposure science, mode of action, cumulative risk, dose-response, and integrated testing strategies.

All of these areas consist of complex and challenging questions that cannot be effectively addressed in isolation or fragmented into discrete activities, which is why the consolidated, proactive approach the new program will deliver is critical.

HESI is actively looking for additional partners to help it realize this vision. Initial plans are in place to convene a steering team in early December and begin refining the project's scope and objectives. If you and your colleagues are interested in working with HESI on this initiative, please notify Michelle Embry at [membry@ilsf.org](mailto:membry@ilsf.org).

## New Publications from ILSI Europe

### [Perspectives on ILSI's International Activities on Functional Foods](#)

The aim of this document is to summarize the achievements and contributions of ILSI in functional food science and its impact on regulations. The document identifies gaps and shortcomings in ILSI's current global efforts and proposes future priorities. It is intended to be read by ILSI stakeholders in academia, industry and government as well as by all those interested in the scientific basis for development of foods, which contribute to a modern diet.

The information in this document was to a large extent supplied by the ILSI branches and secondary sources such as available literature, articles, and websites of other organizations.

To download the publication: [Perspectives on Functional Foods](#)

### [Workshop Report on "3-MCPD Esters in Food Products"](#)

3-MCPD esters have been found in all refined vegetable oils. The lowest levels were observed in refined rapeseed oil (0.3–1.5 mg/kg) and the highest levels in refined palm oil (4.5–13 mg/kg). 3-MCPD esters are now also widespread in thermally processed foods like French fries, toasted bread, bread crust, donuts, salty crackers, roasted coffee, roasted chicory (coffee surrogate), roasted barley, roasted dark malt and coffee creamer, and in fermented foods like pickled herring and sausage.

The report highlights issues on how the 3-MCPD esters are formed at high temperatures during the refining of edible fats and oils, mainly during the deodorization step. A better understanding of the mechanisms of 3-MCPD esters formation is required to give direction to further refining trials. The workshop in February 2009 agreed that, in order to develop effective mitigation measures, the database on occurrence of 3-MCPD esters in food and on the monoester/diester ratio needs to be improved and substantiated by research on the mechanisms of 3-MCPD/glycidol-ester formation.

The workshop considered that collaboration among different research institutes, industry and authorities is key to resolving this potential public health problem and gave the following recommendations for future work in order to address the gaps in knowledge that at the present time prohibit both an adequate risk assessment and effective mitigation procedures.

To download the publication: [3-MCPD Esters in Food Products](#)

To order free hard copies of ILSI Europe publications: [publications@ilsieurope.be](mailto:publications@ilsieurope.be)

### [Inflammatory Disease Processes and Interactions with Nutrition](#) *British Journal of Nutrition 2009;101(Suppl. 1):S1-S45*

Regulated inflammatory responses are essential to remain healthy and maintain homeostasis. However, inflammatory responses that fail to regulate themselves can become chronic and contribute to the perpetuation and progression of disease. Characteristics typical of chronic inflammatory responses underlying the physiology of several disorders include loss of barrier function, responsiveness to a normally benign stimulus, infiltration of inflammatory cells into compartments where they are not normally found in such high numbers, and overproduction of oxidants, cytokines, chemokines, eicosanoids and matrix metalloproteinases. The levels of these mediators amplify the inflammatory response, are destructive and contribute to the clinical symptoms. Various dietary components including long chain  $\omega$ -3 fatty acids, antioxidant vitamins, plant flavonoids, prebiotics and probiotics have the potential to modulate predisposition to chronic inflammatory conditions and may have a role in their therapy. These components act through a variety of mechanisms including decreasing inflammatory mediator production through effects on cell signaling and gene expression ( $\omega$ -3 fatty acids, vitamin E, plant flavonoids), reducing the production of damaging oxidants (vitamin E and other antioxidants), and promoting gut barrier function and anti-inflammatory responses (prebiotics and probiotics).

However, in general strong evidence of benefit to human health through anti-inflammatory actions is lacking for most of these dietary components. Further studies addressing efficacy in humans and providing greater understanding of the mechanisms of action involved are required.

### [Report on "Animal-Borne Viruses of Relevance to the Food Industry"](#) *ILSI Europe Report Series 2009:1-60*

A number of animal-borne diseases that are highly contagious between animals also have the potential to infect humans. This may necessitate interruption of sourcing raw materials, trade restriction of manufactured goods, or result in loss in sales of foods derived from animals suffering particular diseases. The diseases considered are notifiable to the World Organization for Animal Health and include Hepatitis E1, foot and mouth disease, vesicular stomatitis, swine vesicular disease, Rift Valley fever, Pestes des Petits Ruminants, classical swine fever, African swine fever, Newcastle disease, highly pathogenic avian influenza and others. The routes of transmission and illness vary largely. The diseases may be important for consumers or for individuals who handle contaminated raw materials. In other cases, diseases pose no real threat to humans but nevertheless attract much attention. The report covers various aspects of these agents including their ecology, disease-causing ability, control measures and significance as foodborne human pathogens.

To download the publication: [Animal-Borne Viruses](#)

## New Publication from IFBiC

The use of 35S and Tnos expression elements in the measurement of genetically engineered plant material

An online survey was conducted by the ILSI International Food Biotechnology Committee on the use of qualitative and quantitative polymerase chain reaction (PCR) assays for cauliflower mosaic virus 35S promoter and *Agrobacterium tumefaciens* Tnos DNA sequence elements for the detection of genetically engineered (GE) crop plant material. Forty-four testing laboratories around the world completed the survey. The results showed the widespread use of such methods, the multiplicity of published and in-house methods, and the variety of reference materials and calibrants in use. There was an interest on the part of respondents in validated quantitative assays relevant to all GE events that contain these two genetic elements. Data are presented by testing two variations each of five published real-time quantitative PCR methods for 35S detection on eight maize reference materials. The results showed that two of the five methods were not suitable for all the eight reference materials, with poor linear regression parameters and multiple PCR amplification products for some of the reference materials. This study demonstrates that not all 35S methods produce satisfactory results, emphasizing the need for method validation.

The article is available to license holders through SpringerLink:  
[Link to SpringerLink](#)

## In Remembrance

Professor Fahmi Saddik

It is with sadness ILSI announces the passing of Professor Fahmi Saddik on 5 August 2009. Prof Saddik had been executive director of ILSI North Africa and Gulf Region and had worked diligently, especially with ILSI Europe, to strengthen the branch through collaboration and coordination.

Dr. Paul Kuznesof

Dr. Kuznesof spent 23 years with the US Food and Drug Administration (FDA) where he became FDA's expert on specifications for additives and ingredients and established an international reputation in the area of risk/safety assessment for substances added to food. He was a member of the US delegation to the meetings of the Codex Committee on Food Additives and Contaminants and served as chair of the Joint FAO/WHO Expert Committee on Food Additives.

ILSI is especially grateful to Dr. Kuznesof for the valuable time and expertise he provided to ILSI Brasil food safety programs.

## Understanding Early Nutrition and Obesity

ILSI Europe Hosts Roundtable Metabolic Imprinting and Later Health Outcomes

The prevalence of overweight and obese pregnant women is growing with the overall obesity epidemic. Although there is abundant evidence regarding the deleterious effects of excessive body weight and fat mass on metabolic and physiological processes within the body in the non-pregnant state, there is little known about the influences of overweight and obesity during pregnancy and lactation on the health of both the infant and the mother. Maternal overweight and obesity is associated with dysregulation of metabolic, vascular and inflammatory pathways and they have been identified as significant risk factors in the development of hypertensive complications during pregnancy (e.g. pre-eclampsia), gestational diabetes and childhood overweight.

The aim of ILSI Europe's workshop "The Effects of Pre and Postnatal Nutrition of Infants with Obese Mothers: Metabolic Imprinting and Later Health Outcomes" held in 2009, Brussels is to foster a review of evidence on the long-term health outcomes in the offspring born to obese and overweight mothers. Their approach is also multidisciplinary, covering metabolism, epidemiology, and behavior.

A short report of the workshop is available for download:  
[Report on Roundtable on Metabolic Imprinting](#)

ILSI North America  
Funds Literature Review  
on Early Markers for  
Overweight and Obesity

The ILSI North America  
Project Committee on  
Early Nutrition has  
awarded a grant to Drs.  
Linda McCargar and

Anna Farmer of the University of Alberta to conduct a literature review addressing the question, "What early markers have been used in infants and children 0 to 5 years of age that have a proven association with later overweight and obesity?" Like ILSI Europe's efforts, ILSI North America's will be multidisciplinary in approach and will explore potential biochemical, anthropometric, social, and environmental markers.

As part of the review, the investigators will produce a data tabulation which will then be used to prepare a peer-reviewed publication in conjunction with expert input. It is anticipated that the work will be used to improve tools for risk prediction and lead to more earlier, more successful obesity intervention programs. For more information, contact Marie Latulippe at [mlatulippe@ilsis.org](mailto:mlatulippe@ilsis.org).



## ILSI Annual Meeting At-a-Glance Program

ILSI's Annual Meeting brings together members, trustees, science advisors, and staff from around the world. Experts gather to exchange ideas on recent ILSI programs, new scientific challenges, and emerging opportunities to make a difference in human and environmental health.

### Sunday, 24 January 2010

[ILSI North America Assembly of Members](#)

[ILSI Assembly of Members](#)

Key Note Speakers on Food Adulteration

- David Acheson, Leavitt Partners
- John Gilbert, University of Natural Resources and Life Sciences (Vienna, Austria)

[Poster Session and Opening Reception](#)

### Monday, 25 January 2010

[ILSI North America Session - Conflict of Interest and Scientific Integrity](#)

*Detailed information coming soon!*

[ILSI North America Session - Unintended Consequences of Changes in the Food Supply](#)

*Detailed information coming soon!*

[ILSI Forum on Risk Assessment and Functional Foods](#)

[ILSI Research Foundation Session - What Can Medicine Teach Nutrition about Translational Science?](#)

- Translational medicine and its potential for nutrition  
*Speaker to be determined*
- ILSI Research Foundation initiative on translational science  
Bruce German, University of California, Davis
- Applying the translational approach to food and nutrition problems  
Connie Weaver, Purdue University
- Using translational research to understand the development of food preferences  
Richard Black, Kraft Foods

[ILSI Forum on Carbohydrates](#)

### Tuesday, 26 January 2010

[ILSI North America Session —Functional Neuroimaging: Use and Misuse](#)

*Detailed information coming soon!*

[ILSI International Food Biotechnology Committee Session - Issues in Biotechnology](#)

- Endogenous plant pathways to increase crop yields and maintain a safe food supply  
Wayne Parrott, University of Georgia
- Understanding crop genomic plasticity  
Curt Hannah, University of Florida
- Harmonization of 35S and Tnos detection methods  
Marcia Holden, National Institute of Standards and Technology

[Closing Reception](#)

The Quarterly Newsletter of the International Life Sciences Institute®

## Calendar of Events

### Mini-Workshop on "A Pan-European Registry for Severe Allergic Reactions"

30 November – 1 December

Brussels, Belgium

[Pan-Europe Registry for Severe Allergic Reactions](#)

### Estilos de Vida Saudáveis: da teoria à prática (Healthy Lifestyles: From Theory to Practice)

4 December 2009

São Paulo, Brazil

[Estilos de Vida Saudáveis](#)

(Program in Portuguese)

### Beyond PASSCLAIM – Guidance to Substantiate Health Claims on Foods

14 – 16 December 2009

Nice, France

[Beyond PASSCLAIM](#)

### ILSI Annual Meeting

22–27 January 2010

Rio Grande, PR, USA

[2010 ILSI Annual Meeting](#)

### Society of Toxicology 29th Annual Meeting and ToxExpo

7–11 March 2010

Salt Lake City, UT, USA

[www.toxicology.org](#)

### ILSI Europe Annual Symposium and General Assembly

25–26 March 2010

Brussels, Belgium

[ILSI Europe 2010 Annual Symposium](#)

### ILSI Brasil Congress—20th Anniversary Celebration!!

7 – 9 April 2010

Aguas de São Pedro, Brazil

[ilsibr@ilsil.org.br](#)

### HESI Annual Meeting 2010

11 – 13 May 2010

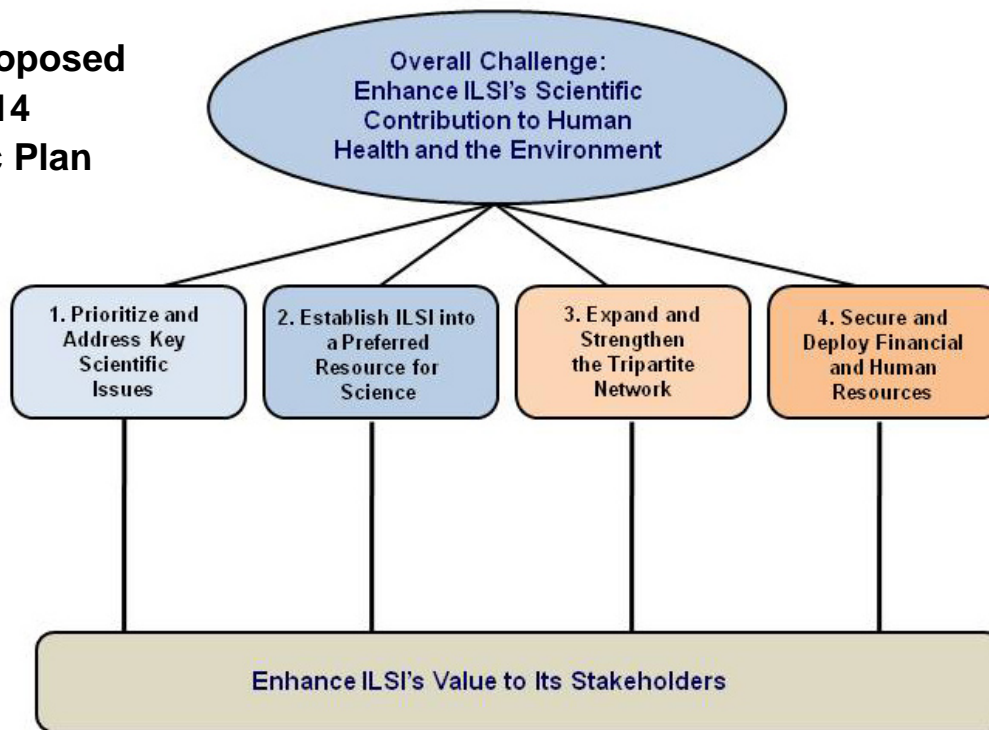
Reston, VA, USA

[hesi@hesiglobal.org](#)

## ILSI Strategic Plan 2010 to 2014

ILSI wants your input. Please share your comments on the proposed strategic plan. We looked forward to your thoughts whether you work for an ILSI member company, are a university-based or government scientific advisor or observer, or have worked with ILSI in any capacity. The proposed plan (in color) and the previous plan (grey) are shown below. Please send your thoughts to Michael Shirreffs ([mshirreffs@ilsi.org](mailto:mshirreffs@ilsi.org)) by 2 January 2010.

### ILSI's Proposed 2010–2014 Strategic Plan



### ILSI's Previous 2007–2009 Strategic Plan

