A Common Vision for Food Allergen Management

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Through history...

**Hippocrates (460-370 BC)**
First reported that “cow’s milk could cause gastric upset and urticaria”

**Galen (131-210 BC)**
Described a case of intolerance to goat’s milk

**Lucretius (96 -55 BC)**
“What is food to one might be fierce poison to others”
Quick Facts...

- Severe allergic reactions affect 2-4% of the population of industrialised countries
- Prevalence > 8% in children
- Anaphylaxis: the most severe manifestation of an allergic reaction – foods account for 25-60% of all anaphylactic reactions
- In adults, the majority of allergic reactions involve peanuts, tree nuts, fish, and shellfish
- In school-age children, the majority of allergic reactions involve peanuts, tree nuts, eggs, milk, soy, and wheat
- Peanuts are the leading cause of severe allergic reactions, followed by tree nuts, shellfish, fish, and eggs
The “riddle”...

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ILSI Global – Food Allergy
Branches with particular activity in Food Allergy

European branch of the worldwide International Life Sciences Institute (ILSI)
http://europe.ilsi.org
Introduction to ILSI Europe

Quick Facts:

- Established: 1986
- Location: Brussels, Belgium
- Members: 62 Companies (2012)
- Funding: Industry Members, EC

Projects run through 25 Task Forces
ILSI Europe’s Mission

“To improve public health and safety through the advancement of science”
Driven by Science

Highly renowned experts (authors of publications, speakers at our events)

At least 50% academics in EGs, SAC and BOD

• Close collaboration with key organisations (WHO, FAO, EC, national Authorities, etc)
• Wide network

Scientific outputs:

• Peer-reviewed articles in high impact factor journals
• Workshop and symposium with best scientists in the fields
• ILSI Europe sessions at key conferences

Science-driven activities/way of working/approach:

• Portfolio and new activities reviewed by SAC
European experts currently involved in ILSI Europe activities
ILSI Europe Companies in 2012
62 Members

Abbott Nutrition
Ajinomoto Europe
Barilla G. & R. Fratelli
BASF
Bayer CropScience BioScience
Beverage Partners Worldwide
Bionov
Biosearch Life
Bunge Europe
Campbell Soup Company
Cargill
Carlsberg
Chiquita Brands International
Coca-Cola Europe
Cosucra Groupe Warcoing
Danone
Dicofarm
Dow Europe
DSM
DuPont de Nemours

Firmenich
Givaudan International
H J Heinz
Institut Mérieux
International Nutrition Company
Kellogg Europe
Kikkoman Foods Europe
Kraft Foods Europe
Luigi Lavazza
Mars
McDonald’s Europe
McNeil Nutritional
Mead Johnson Nutrition
Merck Consumer Healthcare
Monsanto Europe
Naturex
Nexira
Nestlé
PepsiCo International
Pfizer Consumer Healthcare

Pierre Fabre Dermo Cosmétique
Premier Foods
Procter & Gamble
Puratos Group
Red Bull
Roquette Group
Royal FrieslandCampina
Rudolf Wild
Schwabegroup
Sanofi
Sensus
Sensus
Solae Europe
Soremarotec Italia—Ferrero Group
Südzucker/BENEO Group
Syngenta Crop Protection
Swiss Quality Testing Services
Tate & Lyle
Tereos-Syral
Tetra Pak Research
Ülker Bisküvi
Unilever
Yakult Europe
EC Projects - Coordinator (most recent)

  European micronutrient Recommendations Aligned
  WWW.EURRECA.ORG

- BRAFO (2007-2010):
  Benefit and Risk Analysis for Foods
  WWW.BRAFO.EU
EC Projects - Partner/Advisor (most recent)

- **COSMOS**: Integrated *In Silico* Models for the Prediction of Human Repeated Dose Toxicity of COSMetics to Optimise Safety
- **TDS Exposure**: Total Diet Studies
- **FibeBiotics**: Dietary Fibers supporting Gut and Immune Function
- **NewGeneris**: Newborns and Genotoxic exposure risks
- **NutriTech**: Leader of WP7 on harmonisation, dissemination and stakeholder interaction
- **MoniQA**: Monitor Quality Assurance
Areas of interest

Public Health and Well-being

Assessment of Benefits and Risks

Societal Aspects

Food Chain

Diet, Health and Disease
Task Force Portfolio

**Assessment of Benefits & Risks**
- Addition of nutrients to food
- Emerging Technologies
- Food intake methodology
- Functional foods
- Novel foods and Nanotechnology
- Risk analysis in food microbiology
- Risk assessment of chemicals in food
- Risk assessment of genotoxic carcinogens
- Threshold of toxicological concern

**Societal Aspects**
- Consumer science

**Diet, Health & Disease**
- Dietary carbohydrates
- Eating behaviour and energy balance

❖ **Food allergy**
- Metabolic imprinting
- Metabolic syndrome
- Nutrient requirements
- Nutrition and immunity in man
- Nutrition and mental performance
- Prebiotics
- Probiotics
- Weight management in public health

**Food Chain**
- Emerging Microbiological Issues
- Environment & health
- Packaging materials
- Process-related compounds and Natural Toxins
Food Allergy Task Force

“A strong network towards achieving common goals in food allergy”

- **Created:** June 1995
- **Why?**
  Allergens were an increasing concern for both consumers and the food industry supplying food to consumers
- **Vision**
  A Global Network Sharing a Common Goal for Efficient and Effective Food Allergen Management
- **Objectives**
  a. Consider the public health impact of allergenic foods and how it can be mitigated
  b. Identify gaps in knowledge which hinder risk assessment & management of food allergens. Propose work to address identified gaps in knowledge
Main scientific questions

a. What determines whether an allergen is of **public health** importance?

b. **Can thresholds be applied** to food allergens and how?

c. How can better understanding of allergens help **improve both** risk assessment and risk management of allergens in food?

d. What is the impact of various **food processing** methods in the allergenicity of a food ingredient?
Close collaboration with:
Most recent outputs
List of latest publications


✓ M. Worm et al., 2010. Towards a European registry of severe allergic reactions: current status of national registries and future needs. Allergy

✓ Björksten et al., 2008. Criteria for identifying allergenic foods of public health importance. Reg Tox and Pharm

✓ A.G. Kruizinga et al., 2008. Probabilistic risk assessment in food: sensitivity analysis of the minimum eliciting dose and food consumption. Food and Chem Tox
Expert Group
“From Thresholds to Action levels”

- Created
  April 2010

- Goal
  Develop a consensus on quantitative action levels for use in the management of allergenic foods

- Outcomes:
  a. Develop a state of the art review ✓
  b. Consensus workshop in September 2012
  c. Peer reviewed publication
Methodology:

a. Use as **a model** the VITAL review report (Allergen Bureau)

b. Particularly explore:
   
   - **Quality of threshold data**: gathered, including the reliability of analytical methods used
   
   - **Consumer behaviour**: how do allergic consumers make their food choices, e.g. interpreting labelling?
   
   - **Uncertainty factors**: physiological factors that effect sensitivity
   
   - **Geographical** variation in prevalence

   - Identify research gaps

c. Use probabilistic risk assessment models with data from various countries (e.g. NL, DK, USA, etc)
   
   - mashed potato + sauce
   
   - bread + chocolate spread
Expert Group Series
“Scientific criteria applying to food allergens”

Criteria for identifying allergenic foods of public health importance

Evaluation of scientific criteria for identifying allergenic foods of public health importance


Y.J. Chung et al., Application of Scientific criteria to food allergens of public health importance. (In press)

MINI- WORKSHOP
Application of Scientific criteria to food allergens of public health importance

Prioritization with respect to public health relevance of allergenic foods


✓ Focus on QUALITY OF EVIDENCE of data
✓ Focus on ASSESING the quality of evidence
✓ Focus on the PUBLIC HEALTH IMPORTANCE of the criteria
✓ Create a TOOL to prioritise the inclusion of allergens in risk assessment
Expert Group
“Allergenicity and processing” New

Goal
To increase the knowledge of the impact of different types of processing on the allergenic potential of certain allergens

Desired outcome
a. Develop a framework that can help risk managers to identify whether the applied processing parameters are to be considered as mitigating factor or rather an aggravating factor for a given allergen
b. Establish clear, agreed and reasonable assessment tools
iFAAM Partner (2013-2017)

Starting Date: March 2013

Project
Integrated Approaches to Food Allergen and Allergy Risk Management (iFAAM)
Coordinator: University of Manchester, UK (Prof Clare Mills)

How will ILSI Europe contribute?
Key role on Task Stakeholder Platform and Engagement within the dissemination work package

- Set up Experts Groups to address particular elements of the project
  e.g. Expert Group on making “may contain” transparent
- Organise Consensus Workshops followed by publication
  e.g. Consensus on Thresholds and action levels
- Produce publications and disseminate
  e.g. reports. Peer-reviewed articles, monographs, etc.