



# Carbohydrates and artificial sweeteners in human nutrition

**Belgian Nutrition Society**  
**Seventh annual meeting, April 21th, 2017**

Carbohydrates in the human diet are a very diverse group of nutrients with a broad range of effects on human health. While dietary recommendations ask for moderation in consumption of low molecular weight sugars, intake of dietary fiber needs to be stimulated in view of several positive effects on human health. The increasing pressure to reduce sugar intake has been an incentive to search for new components that can replace sugar in the diet. Nevertheless, sugars can form unique sensorial properties that are highly appreciated by consumers and that ask for specific research and measures to replace them in the diet.

In this edition of the BNS annual congress, we will highlight a number of recent scientific findings in relation to the role of carbohydrates in the human diet. We will mainly focus on the health effects of LMW sugars. We will discuss food addiction and impact of sugars on appetite, and we will address recent approaches to generate new alternative healthy sugar structures to be applied in the food industry to generate a series of new foods with beneficial effects on human health.

**Yakult**

**FEVIA**

Federatie Voedingsindustrie  
Fédération de l'Industrie Alimentaire

*enjoy plant power*  
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# Programme

## Welcome session

8.30 – 9.10: Registration and welcome coffee

9.10 – 9.20: Introduction by BNS - N. Delzenne (UCL- President BNS)

9.20 – 9.30: Presentation of the scientific program – J. Van Camp (UGent– Chair of the Organizing Committee)

Session 1: (Chair N. Delzenne)

9:30-10:00 **Keynote 1: Effects of sugar and artificial sweeteners on cardiometabolic risk factors: role of energy fluxes**

*Keynote 1: Prof. Luc Tappy (University of Lausanne, Switzerland)*

*Selected oral presentations*

10:00-10:15 Katrien Corbeels (KULeuven) How is calcium homeostasis affected by Sleeve Gastrectomy and Roux-en-Y Gastric Bypass?

10:15-10:30 Julie-Anne Nazare (University of Lyon) Modulation of starch breakfast cereals digestibility in subjects with metabolic risk: impact on fasting and postprandial oxidative stress and inflammatory markers

Session 2: (Chair Kristin Verbeke)

10:30 – 11:00 **Keynote 2: Divergent effects of fructose and fat on the gut barrier - role of the intestinal microbiota**

*Prof. Stephan Bishoff (Universität Hohenheim, Germany)*

*Selected oral presentations*

11:00-11:15 Nathalie Michels (UGent) Children's psychosocial stress and gut health in a pathway to inflammation and obesity: gut barrier, fecal short-chain fatty acids and gut bacteria

11:15-11:30 Francesco Suriano (UCL) Effects of fibers derived from cereals in the modulation of the inflammatory state induced by an over-consumption of fructose: implication of the gut microbiota

11:30-13:00 **Lunch and Poster presentations**

Session 3: (Chair Stefaan De Henauw)

13:00-13:30 **Keynote 3: Is food addiction a useful explanation for the impact of sweetness and sugars on appetite ?**

*Prof. Graham Finlayson (University of Leeds, UK)*

*Selected oral presentations*

13:30-13:45 Jolie Iven (KULeuven) The effect of intragastric fructose infusion on homeostatic and hedonic brain regions interacts with the effect of emotional state

13:45-14:00 Chen Yang (UGent) Essential study characteristics for quality appraisal of data from nutritional epidemiological studies

14:00-14:45 Coffee break 3

Session 4: (Chair: John Van Camp)

14:45-15:15 **Keynote 4: Towards development of new carbohydrates for future use in human nutrition**

*Prof. Tom Desmet (Ghent University, Belgium)*

*Selected oral presentations*

15:15-15:30 Nele Steenackers (KULeuven) Are iron supplements equally useful for the treatment of iron deficiency?

15:30-15:45 Sophia Jiyuan Zhang (VUB) Coffee with or without sugar, a complex production process encompassing both fermentation and endogenous bean metabolism

**Closing session**

15.45 – 16.00: Presentation of the BNS prizes for best communication (oral and poster) - (Nathalie Delzenne UCL- President BNS)

16.00 – 16.15: Conclusions of the symposium – John Van Camp (UGent Belgium – Chair of the Organizing Committee)

Updates and announcements will feature on our website

[www.belgiannutritionssociety.be](http://www.belgiannutritionssociety.be)

# PRACTICAL INFORMATION

**Venue:** **Royal library of Belgium (near the central station in Brussels)**

Koninklijke Bibliotheek van België - Royal Sky Room / Keizerslaan 2, 1000 Brussel

Plan: [http://www.kbr.be/images/informations/divers/plan\\_nl\\_gd.jpg](http://www.kbr.be/images/informations/divers/plan_nl_gd.jpg)

Bibliothèque royale de Belgique - Royal Sky Room / boulevard de l'Empereur 2, 1000 Bruxelles

Plan: [http://www.kbr.be/images/informations/divers/plan\\_fr\\_gr.jpg](http://www.kbr.be/images/informations/divers/plan_fr_gr.jpg)

**How to get there:** Detailed information: [http://www.kbr.be/informations/informations\\_nl.html](http://www.kbr.be/informations/informations_nl.html)

**Catering:** Food and drinks will be provided for free for participants during the breaks.

**Language:** English. No translations are provided.

## Registration

**All participants need to register electronically.** The congress is free for BNS members. There will be an opportunity to register as BNS member on-site (please consult membership procedures and application form on our website ([www.belgiannutritionssociety.be/go2/Membership/](http://www.belgiannutritionssociety.be/go2/Membership/)) for more info. Membership fees are 35€ and 15 € for students and PhD students.

## Speakers and posters

The program of the symposium consists of different sessions. Each session has a keynote speaker who will give a “state of the art” lecture. Each keynote lecture of all sessions is followed by ‘local’ speakers. For this part of each session, young Belgian scientists will be selected on the basis of the submitted abstracts to orally present their research work. These parts of the sessions aim to provide postgraduate students, PhD students or scientists at all stages of their research, the opportunity to present their work (via oral or ‘live’ poster presentations), independently of the topic of the symposium. Deadline of abstracts is March 15<sup>th</sup>, 2017.

## Organising Committee

John Van Camp (Chair, UGent)

Stefaan De Henauw (UGent)

Kristin Verbeke (KULeuven)

Nathalie Delzenne (UCLouvain)

Carl Lachat (UGent)

Patrick Kolsteren (UGent)