1st International workshop

THE FOOD METABOLOMOME AND BIOMARKERS FOR DIETARY EXPOSURE
Metabolomic approaches for biomarker discovery, validation and implementation

Glasgow, 4-5 July 2013

Co-organised by

International Agency for Research on Cancer
World Health Organization
INRA
UCD Science & Impact
University of Glasgow

With the support of

NutriTech
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**MOTIVATION**

Diet is well recognized as a major determinant of health and some dietary factors are known to modify risk for various non-communicable diseases. However results of epidemiological studies are often contradictory or inconsistent and it is still difficult to draw precise dietary recommendations at the population or individual level to best prevent chronic diseases. These difficulties are notably explained by a lack of accuracy and precision in dietary assessment, due to limitations commonly met with tools such as food frequency questionnaires classically used in epidemiological studies. In addition, improved tools are also needed to monitor dietary exposures in nutritional intervention studies on the effects of the diet on health and diseases.

Biomarkers provide a more objective measure of dietary exposure:
- To measure food consumption without the bias and errors often associated to the use of dietary questionnaires. They may also provide consumption estimates for foods absent or insufficiently documented in questionnaires.
- To measure exposure to food constituents. In particular there is a growing interest for a large diversity of food bioactives that may prevent or increase risk of chronic diseases and for which food composition tables are often not available or unreliable.

No more than 200 biomarkers of dietary exposure have been identified so far and only few have been properly validated. However more than 28,000 compounds have been described in various foods, some of them being specific of a particular food or food group. Many of them are absorbed and metabolized in the body and constitute what has been called the food metabolome. A more thorough exploitation of this huge resource opens exciting perspectives to better assess dietary exposure.

The purpose of the present workshop is to convene for the first time key experts in metabolomics, nutrition and epidemiology in order to define the most promising and shortest routes to mine the food metabolome and identify biomarkers needed to better understand the role of the diet in disease aetiology.

**GENERAL OBJECTIVES**

- To exchange knowledge on the food metabolome
- To identify most efficient ways to exploit this knowledge to discover new biomarkers of dietary exposure for epidemiological and clinical studies
- To establish an international network of scientists active in the field
- To define priorities and set up the agenda for future research in the field

**SPECIFIC OBJECTIVES**

- To specify needs for new biomarkers of dietary exposure in epidemiological and nutrition research
- To present state-of-the-art research on the food metabolome
- To investigate the potential of metabolomics and adductomics in the discovery of biomarkers of dietary exposure
- To make an inventory of useful resources for research on the food metabolome and their availability for researchers
- To identify missing resources and propose actions for their development
- To build up a worldwide network of scientists willing to share information, samples and data to speed up discovery of dietary biomarkers
- To facilitate a stimulating environment for exchange and communication on the food metabolome
- To define a frame for coordination and harmonization of research efforts
PROGRAME

4 July 2013

18:20 Registration
18:50 Introduction

Keynote lectures
19:00 The exposome, concept and applications in molecular epidemiology
   Steve Rappaport (University of California Berkeley, USA)
19:30 The need and role of dietary biomarkers in nutrition research
   John Mathers (Newcastle University, UK)
20:00 Cocktail and dinner

5 July 2013

From the food metabolome to dietary biomarkers

8:30 Biomarkers for dietary assessment – an overview
   Mazda Jenab (IARC, Lyon, FR)
9:00 Criteria for qualification of exposure biomarkers in molecular epidemiology
   Rashmi Sinha and Steve Moore (National Cancer Institute, Bethesda, USA)
9:30 The food metabolome
   Claudine Manach (INRA, Clermont-Ferrand, FR)
10:00 Coffee break
10:30 Discussion 1: General strategies for biomarker discovery and validation according to
   user expectations
   Moderators: Lorraine Brennan (University College Dublin, IE)
   Claudine Manach (INRA Clermont-Ferrand, FR)
   - Epidemiological studies
   - Nutrition surveys
   - Compliance in clinical trials
12:00 Buffet lunch
13:00 Discussion 2: Tools and resources for metabolite identification
   Moderators: John Draper (University of Aberyswyth, UK)
   Rafael Llorach (University of Barcelona, ES)
   - Available expertise on foods and food compounds
   - Food metabolome databases and ontologies
   - In silico metabolite prediction
   - Automatic structure annotation softwares from mass spectra
14:30 Coffee break
14:45 Discussion 3: A network on the food metabolome and dietary biomarkers
   Moderators: Lars Dragsted (University of Copenhagen, DK)
   David Wishart (University of Edmonton, CA)
   - Identification of resources of common interest (databases, softwares, SOPs, chemical standards…)
   - Sharing of food metabolome signals
   - Coordination of community-based efforts for the development of novel shared resources
   - Tools for data sharing
15:45 Conclusions and closing of the meeting
   Oliver Fiehn (University of California Davis, USA)
16:00 End of the workshop

OUTCOME

A paper taking into account the discussions and outcome of the workshop will be published after the event to serve as a basis for building up an international network.

The programme may be subject to changes without prior notice in case of unexpected cancellations.

ORGANIZING COMMITTEE

Dr Augustin Scalbert – Chair
International Agency for Research on Cancer, Lyon, France

Dr Claudine Manach
INRA, Clermont-Ferrand, France

Prof Alan Crozier
University of Glasgow, United Kingdom

Dr Lorraine Brennan
University College Dublin, Ireland
REGISTRATION & PAYMENT

Registration fee: €70,-

The registration fee covers:
• Admission to the workshop
• Working paper to prepare for the workshop
• Refreshments during the conference and the buffet lunch on 5 July 2013
• Cocktail and dinner on 4 July 2013

An invoice will be sent to all participants after registration has been completed. Registration and payment of registration fee by bank transfers should be made by 10 June 2013. Registration and hotel reservations are accepted after 10 June 2013 upon availability.

To register and make your hotel reservation in the Glasgow Marriott Hotel please click here or visit the www.nugo.org/everyone/42461/7/0/30.

CANCELLATION POLICY

All cancellation of registrations should be made in writing to Ms Ruth Marquet. Cancellations received before 10 June 2013 will be refunded minus €35,- handling charges. Cancellations of registration received from 10 June 2013 on will not be refunded.

VENUE AND ACCOMMODATION

The workshop will be held at:

**Glasgow Marriott Hotel**
500 Argyle Street
Glasgow, Scotland G3 8RR United Kingdom

📞 + 44 141 226 5577

🏠 Hotel website

The four-star Glasgow Marriott Hotel is located at a 15-minute stroll or one metro stop (5-minute) to the Scottish Exhibition and Conference Centre.

A limited number of rooms have been pre-booked in the Glasgow Marriott Hotel from 30 June to 6 July 2013 at a special rate for workshop participants:

• £94,- (€110,-/night) for a single room occupancy
• £104,- (€122,-/night) for a double room occupancy

The rates are inclusive of bed, full Scottish breakfast and VAT of 20% and offer free access to the Hotel’s Leisure Club’s indoor pool, sauna and gym. Free WIFI for 24 hours is offered in all public areas.

The cut-off date for hotel reservations is 10 June 2013. After that date, rooms can still be reserved but the rate and availability can no longer be guaranteed. No penalty fees will apply for cancellations received in writing before 10 June 2013.

FOR FURTHER INFORMATION

Please visit the event website.

Please contact:

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**Registration, venue and accommodation**
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