

CONFERENCE PROGRAMME



FEATURING
THE SPECIAL SESSION
"RME₂₀₁₅ MEETS THE PROJECT DECATHLON"

SUPPORTED BY



ON WEDNESDAY 22 APRIL 2015

Updated 05/01/2015

MONDAY 20 APRIL 2015

12:45 **Opening of RME₂₀₁₅**

Dr. Aart van Amerongen, Food & Biobased Research, Wageningen UR, the Netherlands

PLENARY KEYNOTE LECTURES

13:00 Human footsteps in the river Rhine

Prof.dr. Andreas Fath, Faculty Medical and Life Sciences, Furtwangen University, Germany

For his spectacular research project, Andreas Fath swam the complete length of the Rhine and took water samples to examine the quality of the river water using advanced analytical techniques.

13:25 The use of molecular methods in food diagnostics: challenges in interpretation and implications of nucleic acid detection for food safety decision making

Prof.dr. Mieke Uyttendaele, Department of Food Safety and Food Quality, Ghent University, Belgium

PLENARY MEETING: Rapid methods – challenges and prospects

Chair: Dr. Aart van Amerongen, Food & Biobased Research, Wageningen UR, the Netherlands

13:50 From Gram staining to genome sequencing, how will the past shape the future?

Dr. Adrienne Klijn, Nestlé Research Centre, Switzerland

14:10 Advancing analytical microbiology in the dairy industry

Dr. Mickaël Boyer, Danone Nutricia Research, France

14:30 Rapid microbiological methods for breweries: implementing a rapid method based on a user-friendly validated platform

Petra Zeegers, Heineken Supply Chain, the Netherlands

14:50 Applications of microfluidics in waterborne pathogen monitoring

Dr. Helen Bridle, Institute of Biological Chemistry, Biophysics and Bioengineering, Heriot-Watt University, UK

15:15 **Networking break & exhibition**

15:45 – 16:45

Workshops & vendor demonstrations

- **QIAGEN:** Wanted: dead or alive!
- **SCIENION:** Multiplexed test production
- **BIODOT:** Dispense technology and materials influence on lateral flow test and control lines

17:00 – 19:00

Excursion

19:30 – 21:00

RME's Lounge Party

TUESDAY 21 APRIL 2015

PLENARY KEYNOTE LECTURES

- 08:30 Horizon Prize – Food Scanner
Gerald Cultot, Health and Wellbeing, DG Connect, European Commission, Brussels, Belgium
The Horizon Prize for a food scanner will be awarded to a mobile solution that analyses precisely, quickly and efficiently food composition, nutrition facts and potentially harmful ingredients, such as allergens.
- 08:50 Defining the choice of an alternative microbiological method in food industry
Cécile Vadier, Barry Callebaut, France
Barry Callebaut is the world's leading manufacturer of high-quality chocolate and cocoa products.
- 09:15 **PLENARY LIGHTNING TALKS**
Short presentations by exhibitors

PARALLEL SESSION 1: Advances in microbial analysis – focus on viruses and parasites

This session provides an insight into selected areas of advanced detection of viruses and protozoan parasites in food and water.

Chair: Dr. Kitty Maassen, National Institute for Public Health and the Environment, the Netherlands

- 09:45 Advances in rapid methods for enteric virus detection in food
Dr. Gloria Sánchez, Department of Biotechnology, IATA-CSIC, Spain
- 10:10 Waterborne viruses: affinity-based system for detection and removal
Prof.dr. Ibtisam E. Tothill, Division of Engineering Sciences, Cranfield University, UK
- 10:35 Innovative technologies to detect viruses in food and environmental matrices
Dr. Jennifer Shields, Department of Food, Bioprocessing and Nutrition Sciences, NC State University, USA
- 11:00 **Networking break & exhibition**
- 11:30 Detection of parasites in the food chain: why and how
Dr. Joke van der Giessen, National Institute for Public Health and the Environment, the Netherlands
- 11:55 Detection of *Toxoplasma gondii* in meat using magnetic capture and qPCR
Marieke Opsteegh, National Institute for Public Health and the Environment, the Netherlands
- 12:20 Sensor detection of parasite eggs and (oo)cysts – possibilities and challenges
Dr. Heidi Enemark, National Veterinary Institute, Technical University of Denmark, Denmark
- 12:45 – 14:00 **Networking break & exhibition**
Poster viewing
Workshops & vendor demonstrations

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PARALLEL SESSION 2: Advances in contaminant analysis

Advanced technologies provide many opportunities for improved detection of contaminants in food, feed and water.

Chair: Prof.dr. Sarah De Saeger, Department of Bio-analysis, Ghent University, Belgium

- 09:45 Near-infrared spectroscopy: a tool for untargeted detection of contaminants taking advantage of sample heterogeneity
Dr. Vincent Baeten, Walloon Agricultural Research Centre, Belgium
- 10:10 Next generation sequencing in food authentication and safety: the future is happening now
Dr. Sandra Chaves, Biopremier, Portugal
- 10:35 Meat authentication: a new HPLC-MS/MS based method for the fast and sensitive detection of horse and pork in highly processed food
Prof.dr. Hans-Ulrich Humpf, Institute of Food Chemistry, Westfälische Wilhelms-Universität Münster, Germany
- 11:00 **Networking break & exhibition**
- 11:30 NanoMIP-based optical sensor for pharmaceuticals monitoring of drinking water
Dr. Zeynep Altintas, Division of Engineering Sciences, Cranfield University, UK
- 11:55 Advanced sensing platform for endotoxins: MIPs or peptides?
Mohammed Joynal Abdin, Division of Engineering Sciences, Cranfield University, UK
- 12:20 Integrated capability for detecting frauds and assuring the integrity of the food chain: the project FoodIntegrity
Dr. Michele Suman, Barilla, Italy
- 12:45 – 14:00 **Networking break & exhibition**
Poster viewing
Workshops & vendor demonstrations

TUESDAY 21 APRIL 2015

PARALLEL SESSION 3: Advances in microbial analysis – focus on bacteria

The future looks very bright for the field of rapid methods in microbiology. The potential is great with many new developments and applications.

Chair: Prof.dr. Mieke Uyttendaele, Department of Food Safety and Food Quality, Ghent University, Belgium

14:00 Rapid qPCR assay for enumeration of viable *Salmonella* in food – outputs of the project
BASELINE
Dr. Frédérique Pasquali, DISTAL, University of Bologna, Italy

14:25 Novel antibody-based systems for *Listeria* detection
Prof.dr. Richard O’Kennedy, School of Biotechnology, Dublin City University, Ireland

14:50 *Escherichia coli* detection in food: development of a fully automated pathogen purification and detection system
Dr. Marcia Armstrong, QIAGEN, Germany

15:15 SMARTDETECT – a lab-on-chip system for pathogen detection
Dr. Anders Wolff, Department of Micro- and Nanotechnology, Technical University of Denmark, Denmark

15:45 **Networking break & exhibition**

16:15 Cultivation-free identification of pathogens by means of Raman spectroscopy
Dr. Petra Rösch, Institute of Physical Chemistry, University of Jena, Germany

16:40 Flow cytometry analysis and fingerprinting to detect bacterial communities in drinking water systems
Prof.dr. Nico Boon, Department of Biochemical and Microbial Technology, Ghent University, Belgium

17:05 Droplet digital PCR: applications for detection and enumeration of bacteria in food
Dr. Jean-François Mouscadet, Food Science Division, Bio-Rad Laboratories, France

17:30 – 18:00

Speed presentations (selected posters)

18:00 – 19:00

Poster viewing & drinks

TUESDAY 21 APRIL 2015

PARALLEL SESSION 4: Advances in contaminant analysis

Selected areas of contaminant analysis where there have been recent advances or where the contaminant itself has some topicality are highlighted.

Chair: Dr. Michele Suman, Barilla Food Research Labs, Italy

14:00 Sample preparation and analyte quantification using aqueous two-phase extraction coupled with an immunoassay in a microfluidic chip for point-of-use food and feed safety applications
Dr. João Conde, Department of Bioengineering, University of Lisbon, Portugal

14:25 The project IMPRESS: full allergenicity profiling of food in minutes with a portable device based on imaging nanoplasmonics technology
Dr. Gerardo Marchesini, Plasmore S.r.l., Italy

14:50 Enzyme, antibody and MIP assays for the rapid determination of biogenic amines
Dr. Claudia Preininger, Department Health and Environment, Austrian Institute of Technology, Austria

15:15 New developments in effect-based analysis of hormones, POPs, veterinary drugs and obesogens in complex mixtures
Dr. Peter Behnisch, BioDetection Systems, the Netherlands

15:45 Networking break & exhibition

16:15 Application of whole cell biosensor for the detection of environmental pollution
Dr. Wei Huang, Department of Engineering Science, University of Oxford, UK

16:40 An old material for novel applications - microfluidic papers and paper based sensors
Prof.dr. Markus Biesalski, Department of Chemistry, Technische Universität Darmstadt, Germany

17:05 Paper/plastic nanobiosensors for food and environmental applications
Prof.dr. Arben Merkoçi, Nanobioelectronics and Biosensors Group, Catalan Institute of Nanoscience and Nanotechnology, Spain

17:30 – 18:00

Speed presentations (selected posters)

18:00 – 19:00

Poster viewing & drinks

WEDNESDAY 22 APRIL 2015

PARALLEL SESSION 5: Advanced technologies & rapid diagnostic platforms

What's next?

Chair: Prof.dr. Richard O'Kennedy, School of Biotechnology, Dublin City University, Ireland

08:30 Semiconductor technologies for the next generation of rapid point-of-care tests
Dr. Filip Frederix, NXP Semiconductors, Belgium

08:50 How a highly disruptive membrane technology can contribute to effective analysis
Hans-Henk Wolters, Metalmembranes, the Netherlands

09:10 Rapid testing of pathogenic microorganisms by microfluidic immunomagnetic separation and single-cell counting
Dr. Hans-Anton Keserue, rqmicro GmbH, Switzerland

09:30 Affinity sensor based on immobilised molecular imprinted synthetic recognition elements
Dr. Pieterjan Lenain, Department of Bio-analysis, Ghent University, Belgium

09:50 Biofunctionalised nanoparticles for fluorescence and scattering based sensing
Prof.dr. Paul Millner, School of Biomedical Sciences, University of Leeds, UK

10:10 On-line rapid diagnostics for environmental application...
Dr. Adama Marie Sesay, Centre for Measurement and Information Systems, University of Oulu, Finland

10:30 Combination of cell culture assays, analytical chemistry and proteomics to assess the sub-
emetic toxicity of bacterial toxins
Dr. Andreja Rajkovic, Department of Food Safety and Food Quality, Ghent University, Belgium

10:45 **Networking break & exhibition**

11:15 – 13:00 **FINAL PLENARY MEETING: A glimpse into the promise of future developments**
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WEDNESDAY 22 APRIL 2015

PARALLEL SESSION 6: RME₂₀₁₅ meets the project DECATHLON

The project DECATHLON brings together a broad range of experts and expertise to jointly work on the development of new or improved methods that are needed in the field of food pathogens, traceability of GMOs, and customs issues.

Chair: Dr. Esther Kok, RIKILT Wageningen UR, the Netherlands

08:30 Presentation of the project DECATHLON

Dr. Esther Kok, RIKILT Wageningen UR, the Netherlands

08:45 The mission control work package of DECATHLON: the central work package for the discussion of technical approaches

Dr. Ralf Seyfarth, Biolytix AG, Switzerland

09:05 On-site methods within DECATHLON – towards point-of-use molecular analysis and next generation sequencing

Dr. David Kinahan, School of Physical Sciences, Dublin City University, Ireland

09:25 Method development for food pathogens within DECATHLON

Prof.dr. Ulrich Dobrindt, Institute of Hygiene, Westfälische Wilhelms-Universität Münster, Germany

09:45 Digital PCR and NGS as new tools in the GMO detection toolbox

Dr. Jeroen van Dijk, RIKILT Wageningen UR, the Netherlands

10:05 Customs issues: method development tobacco and CITES species within DECATHLON

Mrs. Alexandra Naumova, The National Customs Agency of the Republic of Bulgaria, Bulgaria

10:25 The hammer and the nail in method development, validation and application

Dr. Arne Holst-Jensen, The Norwegian Veterinary Institute, Norway

10:45 **Networking break & exhibition**

11:15 – 13:00 **FINAL PLENARY MEETING: A glimpse into the promise of future developments**
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WEDNESDAY 22 APRIL 2015

FINAL PLENARY MEETING: A glimpse into the promise of future developments

Chair: Dr. Bert Popping, Mérieux NutriSciences, France

- 11:15 Biomimetic virus-based colourimetric sensors
Prof.dr. Seung-Wuk Lee, Department of Bioengineering, University of California, Berkeley, USA
- 11:40 The centrifugal microfluidic 'lab-on-a-disc' technology as a robust and versatile sample-to-answer platform for decentralised bioanalytical applications
Prof.dr. Jens Ducreé, School of Physical Sciences, Dublin City University, Ireland
- 12:05 Programmable biomimetic materials and systems for organ-on-chip devices
Prof.dr. Pascal Jonkheijm, MESA+ Institute for Nanotechnology, University of Twente, the Netherlands
- 12:30 Combining nanotechnology and crowdsourcing for rapid and accurate biomarker analysis
Joost G. Wouters LLM, Splendo Health and Cerberus, the Netherlands
Splendo Health competed for the prestigious Qualcomm Tricorder XPRIZE, the \$10 million global competition to bring healthcare to the palm of your hand.
- 13:00 **Closing of RME₂₀₁₅**