

**THE RME  
CONFERENCE  
SERIES**

**14TH  
CONFERENCE**

**RME 2022**

**3-5**

**OCTOBER**

**2022 AMSTERDAM  
THE NETHERLANDS**

**Rapid  
Analysis &  
Diagnostics**

**FOOD**

**FEED**

**WATER**

**PLANT**

**ANIMAL**

**HUMAN**

**FORENSICS**

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### EXHIBITOR



# PROGRAMME

updated 04/07/2022

## MONDAY 3 OCTOBER 2022

10:30 – 10:45	Opening of <b>RME2022</b>	Exhibition & Innovation playground
10:45 – 12:30	Plenary session <i>Rapid analysis and diagnostics – what's up?</i>	
12:30 – 13:30	Lunch break & poster viewing	
13:30 – 15:15	Plenary session <i>Food and feed integrity – Part 1</i>	
15:15 – 15:45	Networking break & poster viewing	
15:45 – 16:30	Company pitches <i>Short presentation by exhibitors</i>	
16:30 – 17:00	Speed presentations <i>Short presentation by selected poster presenters</i>	
17:00 – 18:00	Workshops	
18:00 – 19:00	Poster viewing & drinks	

## TUESDAY 4 OCTOBER 2022

08:45 – 10:30	Session 1 <i>Micro- and nano-enabled analysis and diagnostics</i>	Session 2 <i>Plant diagnostics</i>	Exhibition & Innovation playground
10:30 – 11:00	Networking break & poster viewing		
11:00 – 12:45	Session 3 <i>Focus on environmental quality</i>	Session 4 <i>Rapid diagnostics for human health – Part 1</i>	
12:45 – 14:00	Lunch break & poster viewing Workshops		
14:00 – 15:45	Session 5 <i>Advanced photonics for food safety and quality testing</i>	Session 6 <i>Rapid diagnostics for human health – Part 2</i>	
15:45 – 16:15	Networking break & poster viewing		
16:15 – 17:35	Session 7 <i>Rapid analysis for forensic applications</i>	Session 8 <i>Rapid diagnostics for animal health</i>	
19:30 – 22:00	Conference dinner (optional)		

## WEDNESDAY 5 OCTOBER 2022

09:00 – 10:45	Session 9 <i>On-site DNA techniques</i>	Session 10 <i>Food &amp; feed integrity – Part 2</i>	Exhibition & Innovation playground
10:45 – 11:15	Networking break & poster viewing		
11:15 – 12:45	Final plenary session <i>Rapid analysis and diagnostics – what further?</i>		
12:45	Closing of <b>RME2022</b>		

## MONDAY 3 OCTOBER 2022

### 10:30 **Opening and rapid overview of RME2022**

**RME2022** aims to further strengthen the academia-industry relations and disseminate advanced research towards practical applications. From concept to product, from analytical methods to systems, and from laboratory to on-site testing are the main themes of the conference.

Dr Aart van Amerongen, BioSensing & Diagnostics, Wageningen University & Research, the Netherlands

### **PLENARY SESSION**

#### **RAPID ANALYSIS AND DIAGNOSTICS – WHERE ARE WE?**

A selection of recent research in the area of rapid analysis & diagnostics will be presented.

Chair: Dr Aart van Amerongen, BioSensing & Diagnostics, Wageningen University & Research, the Netherlands

10:45 *The enemy of my enemy is my friend: the evolution of hybrid nanobots as sensors for food and water safety*

Prof. Sam Nugen, Department of Food Science, Cornell University, USA

11:10 *Disposable micro-qPCR for on-site detection of pathogens*

Dr Firat Guder, Department of Bioengineering, Imperial College London, UK

11:30 *Rapid detection platforms for environmental and human pathogens using functional nucleic acids*

Prof. Yingfu Li, Department of Biochemistry and Biomedical Sciences, McMaster University, Canada

11:50 *Green sample preparation: principles and metrics*

Prof. Eleftheria Psillakis, Laboratory of Aquatic Chemistry, Technical University of Crete, Greece

12:10 *Continuous biomolecular sensing for next-level process control*

Rafiq Lubken, Department of Biomedical Engineering, Eindhoven University of Technology and Helia Biomonitoring, the Netherlands

12:30 **Lunch break**

**Exhibition & poster viewing**

## MONDAY 3 OCTOBER 2022

### PLENARY SESSION FOOD & FEED INTEGRITY – PART 1

Chair: Prof. Sarah De Saeger, Centre of Excellence in Mycotoxicology and Public Health, Ghent University, Belgium

13:30 *Benchtop and portable spectroscopy techniques for food authenticity screening*  
Dr Alina Mihailova, Food Safety and Control Laboratory, Joint FAO/IAEA Centre of Nuclear Techniques in Food and Agriculture, Department of Nuclear Sciences and Applications, International Atomic Energy Agency, Austria

13:50 *Exploring third-generation sequencing for rapid authentication of seafood products*  
Dr Miguel Angel Pardo, Food Quality, Safety and Identity, AZTI and Basque Research and Technology Alliance, Spain

14:10 *From raw/toasted to paste: hazelnuts geographical origin through near infrared spectroscopy approach*  
Prof. Michele Suman, Barilla and Università Cattolica del Sacro Cuore, Italy

14:30 *Fingerprinting tea: combining spectroscopy with machine learning*  
Dr Di Wu, Institute for Global Food Security, Queen's University Belfast, Northern Ireland

14:50 *Prospects and challenges of near-infrared spectroscopy in analysing animal feeds*  
Dr George Bázár, Adexgo Kft., Hungary

15:15 **Networking break**  
**Exhibition & poster viewing**

### PLENARY SESSION COMPANY PITCHES AND SPEED PRESENTATIONS

Chair: Prof. Michele Suman, Barilla, Italy

15:45 **Company pitches**  
Short presentations by exhibitors to inspire the audience to visit their booths

16:30 **Speed presentations**  
Short presentations by selected poster presenters

**WORKSHOPS (TBA)**  
17:00 – 18:00

**HAPPY HOUR**  
18:00 – 19:00

**TUESDAY 4 OCTOBER 2022**

**SESSION 1**

**MICRO- AND NANO-ENABLED ANALYSIS AND DIAGNOSTICS**

Chair: Hans Dijk, Surfix Diagnostics, the Netherlands

08:45 *Surfix's ultrasensitive plug-and-play photonic diagnostics platform*  
Dr Luc Scheres, Surfix Diagnostics, the Netherlands

09:05 *Personalized near patient diagnostics – an unmet need in personalized medicine*  
Waander van Heerde, Enzyre, the Netherlands

09:25 *Microfluidic architectures for point-of-care diagnostics*  
Dr Marko Dorrestijn, CSEM, Switzerland

09:45 *Oxford Nanopore sequencing: a story of tiny holes and big data*  
Rob Janssen Oxford Nanopore Technologies, UK

10:05 *Rapid SARS-CoV-2 whole-genome sequencing and analysis for informed public health decision-making in the Netherlands*  
Dr Bas Oude Munnink, Department Viroscience, Erasmus MC, the Netherlands

10:30 **Networking break**  
**Exhibition & poster viewing**

**SESSION 2**

**PLANT DIAGNOSTICS**

In this session, a range of diagnostic methods for different kind of plant pathogens will be presented.

Chair: Dr Peter Bonants, Plant Research, Wageningen University & Research, the Netherlands

08:45 *Detection of plant virus particles with a capacitive field-effect sensor*  
Prof. Michael J. Schöning, Institute of Nano- and Biotechnologies, Aachen University of Applied Sciences, Germany

09:05 *Real-time on-site diagnosis of quarantine pathogens in plant tissues by nanopore-based sequencing*  
Prof. Massimo Delledonne, Department of Biotechnology, University of Verona, Italy

09:25 *Near-infrared fluorescent nanosensors for detection and imaging of plant pathogen responses*  
Dr Robert Nissler, Department of Mechanical and Process Engineering, ETH Zurich, Switzerland

09:45 *Air microbiome: metabarcoding methods for risk assessment*  
Dr Frédéric Debode, Life Sciences Department, Walloon Agricultural Research Centre, Belgium

10:05 *Digital plant pathology*  
Dr René Heim, Institute for Sugar Beet Research, Germany

10:30 **Networking break**  
**Exhibition & poster viewing**



## TUESDAY 4 OCTOBER 2022

### SESSION 3 FOCUS ON ENVIRONMENTAL QUALITY

Chair: Dr Helen Bridle, Institute of Biological Chemistry, Biophysics & Bioengineering, Heriot Watt University, UK

11:00 *Practical experiences with validation of microbiological rapid methods for drinking water diagnostics*  
Adrie Atsma, Vitens, the Netherlands

11:20 *A suitcase laboratory for molecular water microbiology*  
Dr David Werner, School of Engineering, Newcastle University, UK

11:40 *Gold nanozymes for the detection of mercury ions (Hg<sup>2+</sup>) in seawater*  
Dr Cuong Cao, Institute for Global Food Security, Queen's University Belfast, Northern Ireland

12:00 *NITERYX: the hand-held nitrate sensor for environmental and agricultural in situ monitoring*  
Dr Marta De Sá, OnePlanet Research Center, the Netherlands

12:20 *Bee-Plex: The detection of pesticides harmful to bees by planar array imaging*  
Dr Jeroen Peters, Wageningen Food Safety Research, the Netherlands

12:45 **Lunch break**  
**Exhibition & poster viewing**  
**WORKSHOPS (TBA)**

### SESSION 4 RAPID DIAGNOSTICS FOR HUMAN HEALTH – PART 1

Rapid methods for human health are being developed parallel to those for other fields of application. We must observe what others do and learn from each other, taking and adapting from each other what suits best.

Chair: Prof. Antje Bäumner, Institute of Analytical Chemistry, Chemo- and Biosensors, University of Regensburg, Germany

11:00 *Electrochemical impedance biosensors and biologically sensitive field-effect transistors (BioFETs) for point-of-care diagnostics*  
Dr Pedro Estrela, Department of Electronic and Electrical Engineering, University of Bath, UK

11:20 *Nanoplasmonic biosensors for diagnostics and real-time bioprocess monitoring*  
Prof. Daniel Aili, Department of Physics, Chemistry and Biology, University of Linköping and ArgusEye, Sweden

11:40 *Determination of NH<sub>4</sub><sup>+</sup> in gastrointestinal fluids: an on-site evaluation study*  
Dr Francesca Leonardi and Dr Klaus Mathwig, OnePlanet Research Center, the Netherlands

12:00 *Laser-induced functional carbon nanofibers for highly sensitive point-of-care testing*  
Dr Nongnoot Wongkaew, Institute of Analytical Chemistry, Chemo- and Biosensors, University of Regensburg, Germany

12:20 Title TBA  
John Witton, BioDot, UK

12:45 **Lunch break**  
**Exhibition & poster viewing**  
**WORKSHOPS (TBA)**

**TUESDAY 4 OCTOBER 2022**

**SESSION 5**

**ADVANCED PHOTONICS FOR FOOD SAFETY AND QUALITY TESTING**

Co-ordinated by the European Cluster of Research projects for Environmental and Agri-food Monitoring (ECEAM), a group of EU projects working in the area of environmental and food monitoring.

Chair: Dr Volha Shapaval, Faculty of Science and Technology, Norwegian University of Life Sciences, Norway

14:00 *Low-cost, multi-analyte plasmo-photonic sensor for faster, on-the-spot food quality & safety controls* (project 'GRACED')  
Dr Alessandro Giusti, CyRIC, Cyprus

14:20 *A fully integrated optical biosensor for plasmonic-based quantitative detection of multiple analytes from milk* (projects 'h-ALO' and 'MOLOKO')  
Dr Stefano Toffanin, Institute of Nanostructured Materials, National Research Council, Italy

14:40 *Flexible mid-Infrared photonic solutions for rapid farm-to-fork sensing of food contaminants* (project 'PHOTONFOOD')  
Prof. Boris Mizaikoff, Institute of Analytical and Bioanalytical Chemistry, Ulm University and Hahn-Schickard, Institute for Microanalysis Systems, Germany

15:00 *Smart spectroscopic sensors contribute to a successful digitalization of the food industry* (project 'DigiFoods')  
Dr Jens Petter Wold, Raw Materials and Process Optimization, Nofima, Norway

15:20 *Monitoring fungal contamination in closed food production system* (project 'PHOTONFOOD')  
Miriam Aleda, Faculty of Science and Technology, Norwegian University of Life Sciences, Norway

15:45 **Networking break**  
**Exhibition & poster viewing**

**SESSION 6**

**RAPID DIAGNOSTICS FOR HUMAN HEALTH – Part 2**

Chair: Hans Dijk, Surfex Diagnostics, the Netherlands

14:00 Speaker and title TBA

14:20 *Phenotypic and genotypic approaches to electrochemical detection of antimicrobial resistance*  
Prof. Damion Corrigan, Department of Pure and Applied Chemistry, University of Strathclyde, UK

15:00 *On-site and user-friendly lateral flow test to quantify insulin in blood*  
Dr Aart van Amerongen, BioSensing & Diagnostics, Wageningen University & Research, the Netherlands

15:20 *Engineered antibodies for point of care sensing of SARS-CoV-2: comparison of different biosensing concepts*  
Prof. Sabine Szunerits, Institut d'Electronique, de Microelectronique et de Nanotechnologie, University of Lille, France

15:20 *Making lateral flow tests smarter*  
Dr Karrie Melville, BBI Solutions UK

15:45 **Networking break**  
**Exhibition & poster viewing**



**TUESDAY 4 OCTOBER 2022**

**SESSION 7**

**RAPID ANALYSIS FOR FORENSIC APPLICATIONS**

Forensic investigation is increasingly impacted by new rapid methods and technologies. This session provides insight into some selected areas.

Chair: Dr Annemieke van Dam, Department of Biomedical Engineering and Physics, Amsterdam UMC, the Netherlands

16:15 *Portable electrochemical devices for illicit drugs identification*  
Prof. Karolien De Wael, Department of Bioscience Engineering, University of Antwerp, Belgium

16:35 *Bringing forensic DNA analysis to the crime scene*  
Olivier Tytgat, Department of Pharmaceutics, Ghent University, Belgium

16:55 Speaker and title TBA

17:15 *Sniffing out answers: ion mobility spectrometry (IMS) for forensic analysis*  
Dr Cameron Heaton, Foster + Freeman, UK

**SESSION 8**

**RAPID DIAGNOSTICS FOR ANIMAL HEALTH**

Rapid methods for animal health are being developed parallel to those for other fields of application. We must observe what others do and learn from each other, taking and adapting from each other what suits best.

Chair: Dr Aart van Amerongen, BioSensing & Diagnostics, Wageningen University & Research, the Netherlands

16:15 *Smart use of rapid diagnostics in pandemic crisis management*  
Dr Joukje Siebenga, Animal Sciences Group, Wageningen University & Research, the Netherlands

16:35 *A journey from lab to kennel*  
Dr Lynn Dennany, Department of Pure and Applied Chemistry, University of Strathclyde, UK

16:55 *Use of rapid antigen tests for detection of SARS-CoV-2 in animals*  
Dr Markus Keller, Friedrich-Loeffler-Institut, Federal Research Institute for Animal Health, Germany

17:15 *Developing lateral flow microarrays to detect arbovirus-specific antibodies across species.*  
Bijan Godarzi, Department Biomolecular Health Sciences, Utrecht University, the Netherlands

**CONFERENCE DINNER (optional)**

19:30 – 22:00

## WEDNESDAY 5 OCTOBER 2022

### SESSION 9 ON-SITE DNA TECHNIQUES

Chair: Dr Andy Ward, Department of Civil and Environmental Engineering, University of Strathclyde, UK

09:00 *Integrated DNA analysis on miniaturized devices for agro-food applications*  
Dr Marta Prado, NeoXenica and International Iberian Nanotechnology Laboratory, Spain

09:20 *Portable LAMP/CRISPR-Cas diagnostics*  
Marleen Voorhuijzen, Wageningen Food Safety Research, the Netherlands

09:40 *Novel molecular detection and recognition molecules for health-relevant bacteria*  
Dr Claudia Kolm, Institute of Chemical, Environmental and Bioscience Engineering, TU Wien, Austria

10:00 *Aptamer-pair based portable biosensors for the detection of disease biomarkers, pandemic viruses, and poisonous bacteria*  
Prof. Man-Bock Gu, Korea Department of Biotechnology, University, Korea

10:20 *A point-of-care sensor for the detection of SARS-CoV-2 with loop mediated isothermal amplification and electrochemical detection*  
Ane Rivas-Macho, GAIKER Technology Centre, Spain

10:45 **Networking break**  
**Exhibition & poster viewing**

### SESSION 10 FOOD & FEED INTEGRITY – PART 2

Chair: Dr Bert Popping, FOCOS GbR, Germany

09:00 *The use of modelling for the design of food safety monitoring programmes*  
Prof. Ine van der Fels, Business Economics, Wageningen University & Research, the Netherlands

09:20 *Machine learning-based prediction of rapid evaporative ionisation mass spectrometry (REIMS) spectra towards industry proof accurate large-scale fish speciation*  
Prof. Lynn Vanhaecke, Institute for Global Food Security, Queen's University Belfast, UK

09:40 *Smartphone-based electrochemical biosensors towards ASSURED food safety screening*  
Safiye Jafari, ETH Zürich and CSEM, Switzerland

10:00 *Approaches to the analysis of mycotoxins based on luminescent sensing coupled to biological or biomimetic molecular receptors*  
Prof. Maria C. Moreno-Bondi, Department of Analytical Chemistry, Complutense University of Madrid, Spain

10:20 *Fingerprint to footprint: handheld spectroscopy to measure environmental sustainability*  
Dr Jeroen Jansen, Analytical Chemistry & Chemometrics, Institute for Molecules and Materials, Radboud University, the Netherlands

10:45 **Networking break**  
**Exhibition & poster viewing**

**WEDNESDAY 5 OCTOBER 2022**

**FINAL PLENARY SESSION  
RAPID ANALYSIS AND DIAGNOSTICS – WHAT FURTHER?**

Chair: Dr Bert Popping, FOCOS GbR, Germany

11:15 Duo presentation:

- *SensUs, the international student competition in the field of rapid sensors*  
Myrthe Boone, Molecular Biosensing for Medical Diagnostics, Eindhoven University of Technology, the Netherlands
- *Experiences of a SensUs team*  
Britte Treure, Molecular Biosensing for Medical Diagnostics, Eindhoven University of Technology, the Netherlands

11:45 *Zero waste electrochemical sensor substrates inspired by art and design printing*  
Dr Andrew Ward, Department of Civil and Environmental Engineering, University of Strathclyde, UK

12:05 *The artificial pancreas: a bridge to a cure* (preliminary title)  
Robin Koops, Inreda Diabetic, the Netherlands

12:30 Lessons learned

12:45 Closing of **RME2022**