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Dear stakeholder,

The CONFIDENCE project team is proud to present the 5th edition of the CONFIDENCE e-newsletter. In this newsletter you will find recent developments in the CONFIDENCE project and related information in the area of contaminants in food and feed.

If you want to subscribe to CONFIDENCE News, please fill in the registration form on

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Best regards,

Jacob de Jong, RIKILT - Institute of Food Safety

CONFIDENCE coordinator

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In the spotlight

Big success for the course on Advanced Food Analysis



VLAG International Course
"Advanced Food Analysis"
Wageningen, 15-19 November 2010

On 15-19 November 2010 the course on Advanced Food Analysis, which was jointly organised by the Wageningen University Graduate School VLAG and the FP7-project CONFIDENCE, was held at the Wageningen Conference Centre in Wageningen, The Netherlands.

The course was aimed at PhD-students and young researchers working in the field of food research and focused on several (advanced) techniques and applications (to be) used in food analysis and their potential and pitfalls.

Further information can be found on the [CONFIDENCE web site...](#)



CONFIDENCE at the World Expo in Shanghai

Between 15th to 18th June at the EU-Belgian pavilion at the World Expo in Shanghai, China a highly focused programme of science policy sessions, scientific workshops and media briefings was held to allow participants to showcase joint achievements, exchange success stories and explore new perspectives and collaboration opportunities between European and Chinese research organisations, focusing on the World Expo's theme of "Better City, Better Life". In particular, [CONFIDENCE](#) was selected as one of five FP7 projects for dissemination at a workshop organised by DG RTD and a press briefing focusing on "Feeding cities and citizens with sustainable and safe food". The aim of the workshop was to explore how EU/China collaboration on food research can contribute to deliver sustainable food products for the consumers.

[Read more about this event...](#)

Second Annual meeting of the CONFIDENCE project in March 2010



The second annual meeting, hosted by DTU Food, was held on 17th and 18th of March 2010 in Copenhagen.

The Plenary meeting of the Consortium was held on Wednesday 17th of March and was co-chaired by the Coordinator of the project, Dr. Jacob de Jong and the assistant coordinator Dr. Stefan Weigel. It was attended by 42 researchers from all 17 CONFIDENCE partners.

The coordination of CONFIDENCE thanks DTU Food to give hospitality and to facilitate the meetings.

[Read more about this meeting...](#)

News from the CONFIDENCE project

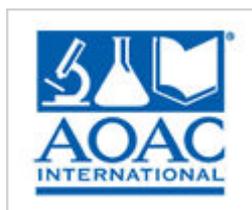
Developing detection methods for organic pollutants; POPs, PFCs, Pesticides



A recent article by the CONFIDENCE scientists Meimaridou et al., entitled "Color encoded microbeads-based flow cytometric immunoassay for Polycyclic Aromatic Hydrocarbons in Food" as published in Analytica Chimica Acta, describes the development of flow cytometry-based immunoassay (FCIA) using a color-encoded microbeads technology to detect benzo[a]pyrene (BaP) and other polycyclic aromatic hydrocarbons (PAHs) in buffer and food extracts.

[Read more on this publication...](#)

<http://dx.doi.org/10.1016/j.aca.2010.05.005>



In July 2010, following the Mexico Gulf oil spill, AOAC INTERNATIONAL launched the call for submitting rapid analytical methods suitable for quantification of polycyclic aromatic hydrocarbons (PAHs) in the raw edible portions of fin fish and seafood. The purpose was to carry out evaluation through the AOAC Official Methods SM program and, supposing the collaborative study is successful, replace existing 'conventional', time and labour demanding methods, by the 'new' one. Of 30 reviewed submissions, PAH Working Group on Quantitative Methods recommended the VSCHT (ICT Prague) method developed within the CONFIDENCE project (WP1a) as the most promising candidate. Based on AOAC request, method scope was extended by volatile US EPA PAHs, also some methylated homologues were included. Currently, the collaborative study is ongoing and should be finalized by the end of 2010. It should be noted that, in addition to PAHs, the CONFIDENCE high throughput method enables simultaneous determination of PCBs, PBDEs, i.e. all analytes within a single run. For final measurement, GC-TOFMS technique is used.

[Read more on this news...](#)

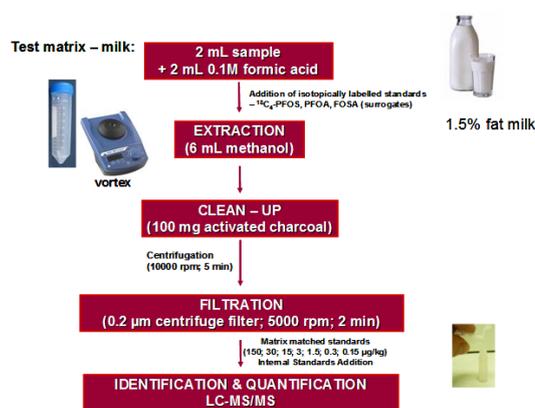
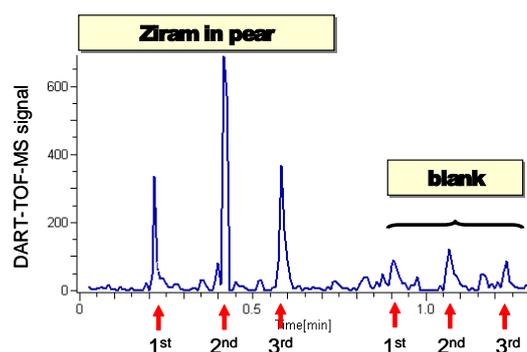


Figure 2: Schedule of analysis of PFCs in milk.

Regarding the PFCs, the standard operation procedure (SOP) of a simplified extraction method for the liquid chromatography coupled mass spectrometry (LC-QqQ-MS/MS) analysis of PFCs in fish and milk matrices, developed by ICT-Prague, was validated according to the Directive 2002/657/EC by ICT-Prague and IDAEA-CSIC. Validation of the method included the determination of the linearity range, the intra-assay precision, the accuracy, the spiked sample stability, the limit of detection (LOD) and limit of quantification (LOQ), the limit of decision (CC α) and the detection capability (CC β). These parameters were calculated by spiking blank fish muscle or milk samples with the three selected compounds (PFOS, PFOA and FOXA) at, at least, three different levels.

[Read more on validation of the method for PFCs...](#)



WP1c focused on rapid detection of pesticides which are not amenable to physical/chemical multi-residue methods. For dithiocarbamate fungicides the feasibility of rapid detection through ambient mass spectrometry has been completed. Thiram and ziram could be semi-quantitatively detected below EU-MRL levels in several vegetables and fruits using DESI-MS and/or DART-MS. Results have been presented at the European Pesticide Residue Workshop (EPRW2010) in Strasbourg, June 2010 (www.eprw2010.com) and the Florida Pesticide Residue Workshop (FPRW2010) in St. Pete's Beach, USA, July 2010 (<http://flworkshop.com/program.php>).

[Read more on posters at EPRW \(DESI\)...](#)

[Read more on posters at EPRW \(DART\)...](#)

[Read more on posters at FPRW \(DART\)...](#)

Lectures on ambient mass spectrometry, including the CONFIDENCE results, were given by Jana Hasjlova, Hans Mol and Richard Fussell during a seminar/training event in Prague.

[Read more on this workshop...](#)

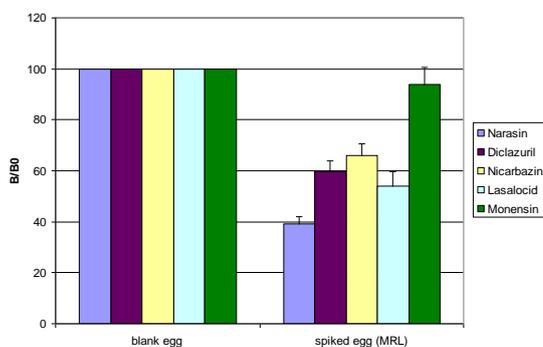
For paraquat and diquat a simplified protocol for extraction from potatoes and cereals was successfully validated, results were presented at EPRW2010.

[Read more on poster...](#)

ELISA and a prototype electrochemical magneto immunosensor were developed and tested for detection of paraquat in extracts of potatoes and cereals. Detection limits well below the EU-MRL of 0.02 mg/kg were achieved. Results were presented at EPRW2010.

[Read more on poster...](#)

Developing detection methods for Veterinary Pharmaceuticals: Coccidiostats, Antibiotics



Performance of the multiplex assays - Measured inhibition for 5 coccidiostats in spiked eggs; B: measured value; B0: maximum signal

During the last six months and after the successful development of two multiplex assays allowing the simultaneous determination in buffer on the one-hand of narasin, salinomycin, nicarbazine and diclazuril and on the other hand of lasalocid and monensin, the research focused on the application to real samples viz feed and egg samples and primarily on setting up adequate sample preparation procedure(s). First results obtained are encouraging since the percentages of inhibition obtained e.g. on eggs spiked at maximum (residue) limit were between 35% and 60% except for monensin 8% (see opposite Figure).

[Read more on coccidiostats...](#)

The main outputs of the WP2a were summarized in a poster and an oral presentation at the SIXTH INTERNATIONAL SYMPOSIUM ON HORMONE AND VETERINARY DRUG RESIDUE ANALYSIS - June 2010 (<http://www.vdra.ugent.be/>). These two contributions displayed the subsequent steps followed in the method development leading to the optimization of the two optimized multiplex assays in buffer and the first results of their application to egg samples.

[Read more on lecture...](#)

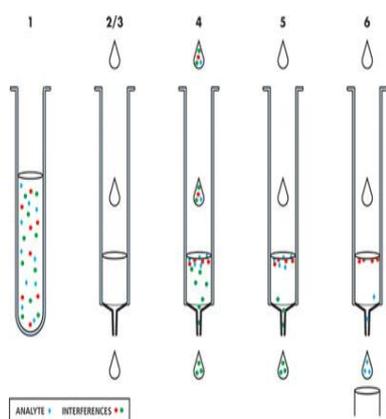
[Read more on poster...](#)



Dipstick reader device

One of the main focuses of the development work within WP2b over the last six month period has been the development of a prototype multiplex dipstick for the simultaneous detection of some of the most commonly detected and problematic antibiotics in retail honey, sulfonamides (10), fluoroquinolones (8), tylosin and chloramphenicol. The prototype dipstick is an indirect competitive format. The challenge is to develop a dipstick with the required sensitivity for all of the 20 target analytes.

[Read more on antibiotics...](#)



SPE elution principle

Developing detection methods for Heavy Metals

The EU-RL for heavy metals in feed and food at IRMM in Geel, Belgium has decided to put determination of inorganic arsenic on the agenda in the 2011 work programme. A proficiency test on inorganic arsenic determination in algae, plant material and wheat, respectively, has been planned. Participation will be open for EU national reference laboratories, EU official control laboratories as well as other interested laboratories. This planned activity originates from increased interest for specific information on inorganic arsenic content in food in order to be able to perform a more detailed risk assessment on arsenic dietary exposure in the European population. Furthermore the Working Group of National Experts in Industrial and Environmental Contaminants in Food of the European Commission has started to consider the possibility to set a specific maximum level for inorganic arsenic in rice, but the discussions have just started and that there is no concrete proposal yet.

In WP3 of CONFIDENCE, a specific method for inorganic arsenic in marine samples is currently under development. The method is based on SPE separation of inorganic arsenic from organoarsenic compounds and detection by HG-AAS. The experimental part of the in-house validation of method has been finalized at DTU Food and will be reported in the near future. The method will be sent out in a collaborative trial in the near future.

[Read more on EURL for heavy metals...](#)

Developing detection methods for Biotoxins: Alkaloids, Marine Biotoxins, Mycotoxins

Hans van Egmond (RIKILT Institute of Food Safety, the Netherlands) gave an invited lecture at the EUROFINs International Seminar 2010 - Food Safety Solutions, in Paris, 21-22 April 2010 with the title: *Alkaloids in food and feed: an emerging issue?* Some compounds occurring naturally in plants used for food or animal feed can also have toxic properties and pose a risk to human health. Examples of planttoxins were given in two talks in this seminar. The first dealt with alkaloids, basic nitrogen containing compounds produced by a variety of organisms, including plants and fungi. The presentation given by Hans Van Egmond of RIKILT in the Netherlands focused primarily on pyrrolizidine, tropane and ergot alkaloids. Pyrrolizidine alkaloids, in particular, have been linked to the contamination of animal fodder by ragwort (*Senecio jacobaeae*) an increasingly common weed found in the European countryside.

[Read more on lecture...](#)



Hans VAN EGMOND
RIKILT (The Netherlands)

Alkaloids in food and feed: an emerging issue?



Noan Nivarlet gave an invited lecture at the World Mycotoxin forum 6th conference, which was held in Noordwijkerhout in the Netherlands, from 8-10 November 2010, with the title : Development of multiplex lateral flow immunoassays for the determination of pyrrolizidine, tropane and ergot alkaloids. This lecture targeted results on the development of multiplex lateral flow immunoassays based on gold colloidal polyclonal antibodies.

[Read more on lecture...](#)



The aim of mycotoxin research within CON#IDENCE project is to develop commodity dedicated multiplex dipstick tests for the determination of the *Fusarium* toxins deoxynivalenol (DON), zearalenone (ZEA), T-2/HT-2 toxins (T-2/HT-2) and fumonisins (FBs) in raw cereals, maize-feed and cereal based food. Prototype multiplex dipsticks were designed and assembled in order to reach detection limits (cut off levels) compatible with the EU legislation in force or expected for *Fusarium* toxins (EC Regulations No 1881/2006 and 1126/2007). The resulting immunoassay protocol is rapid (total analysis time 50 min for 6 mycotoxins), inexpensive, and easy-to-use (steps such as filtration/centrifugation are avoided). Therefore, besides sensitivity, other essential requirements for a rapid method are fulfilled. Aim of future scheduled activities is to demonstrate robustness and reliability of the developed method through in house validation and a small scale interlaboratory study.

[Read more on mycotoxins...](#)



Angelo Visconti (ISPA)

Angelo Visconti (National Research Council of Italy - Institute of Sciences of Food Productions) gave a lecture at the 124TH AOAC ANNUAL MEETING – Sept 26-29, 2010, Orlando (Florida) with the title: *Analytical Challenges in Developing Prevention and Control Strategies in Food and Feed*. The presentation focused on strategies to improve mycotoxin monitoring and prevention at different critical steps of the food chain. Main achievements and future perspectives of MycoRed and CON#IDENCE projects were illustrated. Emphasis was given to multi-mycotoxin methods based on both advanced LC-MS methodologies and rapid screening methods, with particular reference to multiplex dipstick immunoassays.

[Read more on lecture...](#)

[Read more on the 124th AOAC annual meeting...](#)

News from other projects

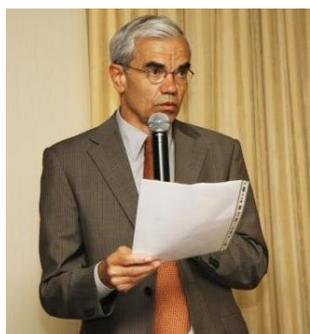
CONFIDENCE: an example to train young European journalists



26 April 2010

The MY SCIENCE ('My science European program for young journalists') project, funded under the EU's Seventh Framework Programme (FP7) and coordinated by the European Academy of Bolzano in Italy (EURAC Research), selected 85 young journalists from all over the European Union and Associated Countries to support training activities in EU-funded research laboratories. With a budget of EUR 252.612, enhancing the relevant role of the scientific dissemination is the main objective of this transnational and collaborative action.

[Read more about this training](#)



Hans van Egmond (RIKILT)

Joint CONFIDENCE/BIOCOP session at MONIQA

8-10 June 2010

The 2nd International MONIQA conference held on 8-10 June in Krakow-Poland, was an inter- and cross-disciplinary event which formed a bridge between the daily concerns of citizens, economic considerations and food and nutrition science.

The session 8 chaired by Hans van Egmond, featured results from the related projects BioCop (www.biocop.org) and CONFIDENCE (www.confidence.eu) which increased the cross-fertilisation of ideas and ultimately helped deliver greater benefits to stakeholders around the world. Hans van Egmond started the session with [a brief introduction](#) about the context. Then the CONFIDENCE key outputs were presented through 4 lectures listed here after:

- Jana Hajslova, [Innovations in pesticide residues analysis](#).
- Luis Botana, [Replacement of the mouse bioassay for phycotoxins](#).
- Anne Catherine Huet, [Veterinary antibiotics: multiple dipsticks, SPR and Electrochemical sensors](#).
- Danila Moscone, [Heavy metal detection using cell based and sensor based assays](#).



Anne Catherine Huet (CER)

[Read more on joint CONFIDENCE/BIOCOP session...](#)

MONIQA tackles food quality and safety with innovative result

21 June 2010



How safe is the food we eat? While many have been stumped by this question, the EU-funded MONIQA ('Monitoring and quality assurance in the total food supply chain') project has responded with the development of reliable tools and methods to assess the foods we consume. The project, backed with over EUR 12 million under the 'Food quality and safety' Thematic area of the EU's Sixth Framework Programme (FP6), offers a database of food quality and safety issues, as well as analytical tools for food production and the supply chain.

[Read more on MONIQA...](#)



ISM-Mycored workshop-training course on detection techniques for mycotoxin and toxigenic fungi in the food chain

04-08 October 2010

As a concrete evidence of the link between CONffIDENCE and MycoRed projects, a practical training on determination of *Fusarium* toxins in maize by multiplex dipstick immunoassays developed in CONffIDENCE project was organized within the ISM-MycoRed workshop-training course on *Detection techniques for mycotoxin and toxigenic fungi in the food chain*, Oct 4-8, 2010, CNR-ISPA, Bari, Italy. Students attending the course had the chance to perform for the first time multi-mycotoxin extraction and dipstick analysis under the supervision of Noan Nivarlet (Unisensor) and Veronica Lattanzio (CNR-ISPA).

[Read more on ISM-Mycored training course...](#)

[Read more on multiplex dipstick immunoassay in maize...](#)



Upcoming Events

CAPACITY BUILDING IN MYCOTOXIN-SAFE FOOD TRADE

06 - 10 December 2010



This training course is addressed to food inspectors with food safety knowledge/expertise, able to guides/do inspections, English speaking and with interest beyond laboratory environment. The course will be focused on education, awareness, leading to improved surveillance and regulation, building a network, by an interactive programme with discussion groups.

[Read more about this training...](#)

RAPID METHODS EUROPE 2011

24 - 26 January 2011



Rapid Methods Europe is a series of events dedicated to the latest developments in microbial and chemical analysis for food and feed safety and quality. Rapid Methods Europe 2011 presents new and cutting-edge technologies focusing on multitarget screening, lower detection limits, wider range of matrices and shorter time, with an eye toward coming trends such as looking for unknown compounds and moving tests out of the laboratory.

[Read more on this conference...](#)

FOOD INTEGRITY AND TRACEABILITY CONFERENCE

21 - 24 March 2011



The ability to protect the integrity of the food supply chain is a massive challenge but one which is of the utmost importance to protect the consumer. This encompasses the threats posed by microbiological and chemical contamination of the supply chain, along with guaranteeing the authenticity of food products to combat fraudulent practices and control adulteration for economic, food safety and cultural reasons. The conference to be held in Belfast will concentrate on three key themes: • Reviewing recent progress in delivering safe and authentic food to the consumer • Identifying the greatest current and emerging threats to the integrity of the agri-food supply • Delivering new analytical means of verifying the integrity of the agri-food supply chain.

[Read more on this conference...](#)

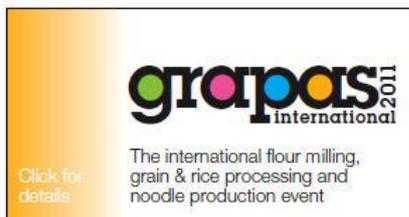
MYCORED AFRICA 2011 CONFERENCE

04 - 06 April 2011



The increasing importance of fungal toxins (mycotoxins) in food safety issues around the world has led the European Commission to fund our international consortium MycoRed of role players and researchers to address fundamental and practical aspects of mycotoxin reduction in the food and feed chains. As part of this initiative, the MycoRed Africa 2011 Conference from 4 to 6 April 2011 will bring together a range of international experts to discuss mycotoxicological issues in general and mycotoxin reduction measures in particular. Participation of delegates from the African continent will be encouraged and actively promoted.

[Read more on this conference...](#)



VICTAM FIAAP GRAPAS INTERNATIONAL 2011

03 - 05 May 2011

Victam 2011, the world's largest & premier event for the production & processing of animal feed, dry petfood & aquafeed and also biomass technology; FIAAP 2011, the world's only dedicated event for the supply, use & formulation of ingredients & additives used within animal feed, dry petfood & aquafeed; and GRAPAS 2011, a new exhibition & conference for flour milling, grain processing, pasta processing, breakfast cereals & extruded snack production, will be supported by a series of technical conferences and workshops:

- Petfood Forum Europe 2011,
- Aquafeed Horizons 2011,
- The Biomass Conference,
- The IFF Feed Processing Conference,
- Feed safety assurance in a globalizing industry,
- The FIAAP 2011 Conference,
- The GRAPAS 2011 Conference

[Read more on those events...](#)

LATIN AMERICAN PESTICIDE RESIDUE WORKSHOP (LAPRW 2011)

08 - 11 May 2011



The 3rd LAPRW will be held in Montevideo, Uruguay from the 8th to the 11th may 2011. The objective of the workshop is to exchange information, experiences and strategies bringing together academia, industry and government. It is an unique opportunity to share in the same event lectures from top scientists in the field and to hear the opinion of the regulating offices from Latin America, USA and Europe in a key issue not only from an academic point , but also decisive for public health and global world trade of commodities.

[Read more on this workshop...](#)

FIRST INTERNATIONAL CONFERENCE ON ORGANIC FOOD QUALITY AND HEALTH RESEARCH

18 - 20 May 2011



The Conference will focus on the State of the Art in Research on Organic Food Quality and Health in the following areas:

- Quality and safety of organic plant and animal products,
- Impact of processing on organic quality and safety national and international agencies, control bodies and industries to attend the First International Conference on Organic Food Quality,
- Standardization of novel methods,
- Organic food authenticity,
- Impact of organic food on animals,
- Impact of organic food on humans,
- Health concepts

[Read more on this conference...](#)

4th International IUPAC Symposium for Trace Elements in Food (TEF-4)

19 - 22 June 2011



The objective of this interdisciplinary symposium is to gather experts with different backgrounds to discuss all aspects of trace elements in relation to food, with special emphasis on biological effects of elements.

Topics of particular interest include:

- Sources and transfer of trace elements into the food and feed
- Analytical advances in trace elements in food
- Trace elements in nutrition and human health
- Toxicology and risk assessment
- Other

Special emphasis is placed on research and development efforts which have taken place in the last few years as well as on emerging issues in the area.

[Read more on this event...](#)

CONFffIDENCE FP7 project : www.confidence.eu

For further information contact: coordination@confidence.eu

This work is funded by the European Commission, under the FP7 Food Quality and Safety Priority, within the framework of the Collaborative Project CONFffIDENCE – 211326 – entitled “Contaminants in Food and Feed: Inexpensive DETection for Control of Exposure”. This project is carried out by a consortium coordinated by RIKILT – Institute of Food Safety (NL) and includes 17 partners. The information reflects the authors views, the European Commission is not liable for any use of the information contained therein.

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