41st International Conference on Environmental & Food Monitoring

The "International Association of Environmental Analytical Chemistry" (IAEAC) aims to promote and maintain scientific excellence in the field of environmental analytical chemistry, focusing on the proper application of methodologies to assess substances significant for both humanity and the environment. IAEAC initiatives are designed to facilitate the exchange of the latest research findings in environmental matters and provide training in advanced analytical technologies.

After a period of absence related to the pandemic, the International Conference on Environmental & Food Monitoring was held at Novotel Amsterdam City in Amsterdam, Netherlands, for 5 days, from November 20 to 24. The first day involved conference registration with a warm welcome to all participants, providing an opportunity for networking and preparing materials for their contributions, such as posters, displayed in the lounge area.

On Tuesday, November 21, the meeting began with an opening ceremony by Marja Lamoree from Vrije Universiteit and Hans Mol from Wageningen University, both partner universities of the conference. There were seven morning plenary sessions on suspect and non-target screening, with Merixell Gross from the Catalan Institute for Water Research delivering a notable lecture on the identification of emerging organic contaminants in greywater emitted from ships using a comprehensive LC-HRMS target and suspect screening approach. After lunch, there were four more plenary sessions on the same theme, featuring Manuel García Jaramillo from Oregon State University discussing the use of LCMS analysis and suspect and non-target screening to assess the efficiency of Hybrid Electrodialysis-Forward Osmosis (ED-FO) in water reuse. Shorter parallel sessions of 15 minutes were organized in the afternoon, including four sessions on food fraud and authenticity and five sessions on chemicals, metabolites, and transformation products. The day concluded with another plenary talk by Jean-Philippe Antignac from the French National Institute of Agronomic Research for a Coherent and sustainable development of agriculture, food, and the environment, on the partnership for the assessment of risks from chemicals. Commercial booths from companies like Restek, Bruker, Shimadzu, and Waters, among others, were available during breaks, along with posters from many attendees categorized by topics. It is worth noting significant presence of posters focused on per-and polyfluoroalkyl substances and on the analysis of non-specific environmental pollutants, such as wastewater and urines.

On Wednesday, November 22, the day started with plenary sessions by Beate Escher from the Helmholtz-Centre for Environmental Research on Chemical cocktails threaten the environment and human health and Bart Koelmans from Wageningen University on Advances in microplastic exposure, fate, effects and risks. Subsequently, there were six plenary sessions on risk assessment and modeling, with a noteworthy presentation by Kishore Kumar Jagadeesan from the University of Bath on a cutting-edge R-based tool for enhanced environmental risk assessment of active pharmaceutical ingredients in wastewater under the PERK initiative. After lunch, Sciex and CTC Analytics hosted two sales sessions on advances in MS technology for food analysis. This was followed by two parallel sessions, one on environmental contaminants and residues in food and the other on the analysis of micro/nanoplastics. In the former, Silvia Borrull from Rovira i Virgili University and SECyTA member presented her work on the occurrence of

high-volume production chemicals in highly consumed seafood species and the evaluation of dietary intake and risk characterization.

On Thursday, November 23, the conference began with plenary sessions by Charlotta Turner from Lund University on Advancing green and sustainable analytical chemistry for Environmental and Food Analysis and Gaud Dervilly from Oniris, INRAE, Laberca, on strategies for characterizing the consumer's chemical exposome. After breakfast, nine plenary sessions were held, six on effect-directed analysis and in vitro assays for mixture evaluation, and three on analysis and sampling. Notable was the presentation by Maria Margalef Jornet from Vrije Universiteit Amsterdam on effect-directed analysis in the environment-food-human continuum to identify chemicals with Transthyretin binding properties. Later, two parallel sessions were organized, one on materials in contact with food and the other on toxic chemicals, metabolites, and transformation products. In the latter theme, Reyes García from Universitat Rovira i Virgili and SECyTA member delivered a presentation on passive sampling of high production volume chemicals and polycyclic aromatic hydrocarbons in outdoor air samples. Application and risk assessment evaluation. At the end of the day, a dinner was held on an exclusive boat from Rederij 't Smidtje Canal Cruises, providing a unique experience of dining and cruising through the canals of Amsterdam for 3 hours, despite the cold weather.

On the final day of the congress (Friday, November 24), seven plenary sessions were held on sampling strategies and *in situ* detection. Marleen Voorhuijzen from Wageningen University and Research led one of these sessions, generating much anticipation due to her controversial title, “combatting cannibalism”, which discussed the early detection of processed animal proteins in poultry feed. After the presentations, a small awards ceremony was held to recognize the best oral presentations and posters by selected novice researchers, sponsored by Analytical and Bioanalytical Chemistry and IAEAC.

The winners of the Roland W. Frei Award, presented by ISEAC for the best oral presentations, were Ids Benjamin Lemmink from Wageningen University and Research for "Towards rapid in situ detection of atropine in cereals" in the field of food, and Jaimy de Schepper from the Free University of Amsterdam for "The contribution of PFAS to the disruption of thyroid hormone activity in Dutch waters: A comparison between two in vitro bioassays with chemical analysis" in the field of the environment.

The winners of the Best Poster Award, presented by Analytical and Bioanalytical Chemistry, were Seven-Oliver Herter from the Bundesanstalt für Materialforschung und -prüfung for "Synthesis and application of isotopically labelled reference standards for the mass spectrometric quantification of ergot alkaloids in foodstuff" in the food category, and Denice Van Herweden from the University of Amsterdam for "Modular open-access and open-source Julia HRMS toolbox" in the environmental category.

In addition, participants in ISEAC-41 will have the opportunity to submit their work for publication in a special issue of *The International Journal of Environmental Analytical Chemistry* (IJEAC). Finally, the location of the next congress in Aveiro, Portugal, from June 9 to 13, 2025, was announced. Participation in this congress was a pleasant experience where a high

representation of Spanish universities was personally observed. Despite the weather, enjoyable days were spent in the capital of the Netherlands.

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