Commentary: Twentieth international symposium on electro- and liquid-phase separation techniques (ITP2013): Highlights

Alejandro Cifuentes / Javier Hernández Burgos

The ITP Symposium Series, born in Belgium in 1979, represents the premier meeting in electro- and liquid-phase separation techniques. Continuing this well-established series of the ITP symposia, the Spanish National Research Council (CSIC), and the University of La Laguna (ULL) organized the 20th International Symposium on Electro- and Liquid-Phase Separation Techniques (ITP2013), which was held for its first time in Spain, namely, at the charming town of Puerto de la Cruz in Tenerife, Canary Islands on October 6–9, 2013.

This new edition was chaired by Alejandro Cifuentes, from the Spanish National Research Council (CSIC) and cochaired by Javier Hernández-Borges, from the University of La Laguna. A total of 240 participants from more than 30 countries around the world attended the meeting, which made ITP2013 the most numerous edition in the history of the ITP series.

The Permanent Scientific Committee of the ITP meeting series is formed by a group of well-known scientists in the field. Namely, the Permanent Scientific Committee members who attended the ITP2013 meeting were Bezhan Chankvetadze (Tbilisi, Georgia), Alejandro Cifuentes (Madrid, Spain), Ziad El Rassi (Stillwater, USA), Salvatore Fanali (Rome, Italy), Frantisek Foret (Brno, Czech Republic), Bohuslav Gas (Prague, Czech Republic), Takeshi Hirokawa (Hiroshima, Japan), Václav Käsíčka (Prague, Czech Republic), Blanca H. Lapizco-Encinas (Rochester, USA), Marja-Liisa Riekkola (Helsinki, Finland), and Marina F. M. Tavares (Sao Paulo, Brazil). Besides, in this ITP2013 edition, the Scientific Committee also counted on Javier Hernández-Borges and Miguel Angel Rodríguez-Delgado from Tenerife, Spain.

The International Organizing Committee was composed of a group of relevant scientists from all around the world: Yi Chen (Beijing, China), Vincenzo Cucinotta (Catania, Italy), Attila Felinger (Pécs, Hungary), Mihkel Kaljurand (Tallinn, Estonia), Ferenc Kilár (Pécs, Hungary), Christian Klampfl (Linz, Austria), Koji Otsuka (Kyoto, Japan), Govert W. Somsen (Amsterdam, The Netherlands), and Guowang Xu (Dalian, China).

ITP2013 scientific and social activities were scheduled over four days, starting on Sunday, October 6 in the evening with the Opening Ceremony at which Salvatore Fanali from the Institute of Chemical Methodologies in Rome, Italy, and Ziad El Rassi, from Oklahoma State University, USA, gave the Opening Plenary Lectures, which were sponsored by Beckman Coulter. Salvatore Fanali's lecture covered the topic "Recent developments in capillary chromatography and electrochromatography," in which the general principles and the main features of capillary-/nano-LC and CEC were presented, discussing problems and solutions related to the instrumentation usually employed as well as method optimization features and applications. Ziad El Rassi's lecture was entitled "Strategies for profiling sub-glycoproteomics – Toward next generation biomarkers" in which he described results concerning a fully integrated platform that was developed for capturing/fractionating human fucosylated glycoproteins (i.e. human fucome) from disease-free and breast cancer sera and that allowed the identification of a good number of possible biomarkers. Afterwards, a welcome cocktail was served for all the participants at the hotel pool of the congress venue.

A total of 96 oral communications distributed over six sessions with three parallels sessions each, as well as 150 posters distributed over two different sessions and days were presented. The commercial exhibition, the two poster sessions, and the different coffee breaks took place in the same room, where Agilent Technologies, LECO, and Mengel Engineering presented their products. After a hard and tight schedule on the second day of the symposium, participants were taken to La Gañanía Restaurant to enjoy the congress dinner in a relaxing atmosphere with a stunning view of the Valley of La Orotava.

On the following day, a Plenary Session devoted to Young Scientists was specially organized to promote young researchers in the field. Because of the high quality and interesting discussions that took place during such session it was widely claimed that this was in fact a good idea that should be promoted in further editions of the ITP congress.

On the evening of Tuesday, October 8, as part of the social program, participants were taken to the National Park of Las Cañadas del Teide (reaching about 2200 meters high), where they could see different and attractive volcanic landscapes at sunset. The social event was closed with a Canarian cocktail and the performance of a local folkloric group that played music and dances of the seven Canary Islands.

Finally, the closing Plenary Lectures were given on Wednesday morning by Elena Ibáñez from the Institute of Food Science Research (CIAL, CSIC) of Spain and Jonas Bergquist from Uppsala University, Sweden, who talked about "Green Foodomics" and "Population-based Omics", respectively. Elena Ibáñez presented different green alternatives for the production of new functional food ingredients (based on the use of green solvents and the design of integrated processes producing less residues and consuming lower amounts of energy), and how these processes can be also applied to develop greener analytical methodologies to face some aspects related to the food quality, traceability, and safety; while Jonas Bergquist presented a unique set of identifications of genetic variants affecting the human plasma proteome achieved by combining label-free high-resolution LC-MS with genome-wide SNP data.

During the Closing Ceremony of the congress, participants were invited to the next edition of the symposium, ITP2014, which will be held in Brazil and chaired by Marina F. M. Tavares and Emmanuel Carrilho from the University of Sao Paulo. Afterwards, the two most relevant posters of the congress were announced as well as the two most outstanding young scientist communications.

In the first case, the Scientific Committee of the congress was in charge of selecting the two best posters, which were awarded by the Spanish Royal Society of Chemistry (RSEQ, Canary Islands division). One of the awards was given to María Concepción García, from the University of Alcalá de Henares, Spain, for her poster entitled "Development of analytical strategies for the extraction of peptides with therapeutic activities from plum seeds" in which a new method that enabled the effective extraction and digestion of plum seed proteins and that allowed the evaluation of the presence of peptides with antioxidant, antihypertensive, and hypocholesterolemic capacities was outlined. The other poster award was given to Guillaume L. Erny, from the University of Aveiro, Portugal, for his work entitled "Micellar electrokinetic chromatography with full capillary loading" that described the use of the full capillary as a sample loop before the separation of a mixture of triazines, which allowed an important preconcentration of the analytes without significant losses in resolution in comparison to an equivalent separation without an on-line concentration step.

The International Organizing Committee of the ITP2013 selected the two best oral communications given by young scientists and awarded by the AES Electrophoretic Society. The first prize was given to Miguel Herrero from the Spanish National Research Council (CIAL, CSIC) who presented the communication "Analysis of complex food samples with comprehensive two-dimensional liquid chromatography (LC $\times$ LC) using hydrophilic interaction and reverse phase" in which the potential problems and solutions as well as different successful applications of HILIC $\times$ RP methods were shown for the analysis of very complex food-related matrices such as those including closely related phenolic compounds and phenolic polymers. The second prize was given to Shama Naz, for her communication entitled "A multiplatform study of lung fingerprinting: Method optimization, validation and application" from CEU-San Pablo University, in which a nontargeted global fingerprinting approach was developed and validated using multiple complementary analytical techniques (LC-MS, GC-MS, and CE-MS) for the analysis of lung samples of rats.

As an extra activity, and as it is usual in the ITP meetings, a workshop about the principles and applications of CE with MS (CE-MS) was also taught on Sunday, October 6 by Christian Klampfl from Joannes Kepler University, Austria, and Carolina Simó from the Spanish National Research Council (CIAL, CSIC). An important number of attendants agreed that it was in fact a high-quality course.

Finally, the symposium was also connected for the first time during the last day with the XIII Meeting of the Spanish Society of Chromatography and Related Techniques (SECyTA2013) that was held at the same place (Hotel Beatriz Atlantis & Spa) on October 8–11, 2013. A good number of participants were able to attend both meetings.

We would like to thank all the participants, Sponsors, the Permanent Scientific Committee, the International Organizing Committee as well as the Local Organizing Committee for all their help. In particular we want to thank to María Asensio-Ramos, Giovanni D'Orazio, Virginia García-Cañas, Miguel Ángel González-Curbelo, Antonio V. Herrera-Herrera, Miguel Herrero, Clara Ibáñez, Carolina Simó, Bárbara Socas-Rodríguez, Alberto Valdés, and Miguel Ángel Rodríguez-Delgado for their great help, dedication, and assistance that made possible a successful and enjoyable ITP2013 meeting, thank you!