

The XVI Latin American Congress on Chromatography (COLACRO) was held in Lisbon (Portugal) between 5<sup>th</sup>-9<sup>th</sup> January 2016. COLACRO is among the five greatest worldwide symposiums on chromatography and related techniques. The series, started in 1986 in Rio de Janeiro (Brazil) by professor Fernando Lanças, has been held biennial in south-America countries and has become an important event in separation science. This year, COLACRO symposium celebrated the pearl anniversary (30 years) and it was organized, for the first time out of south-America continent, by the Chromatography group of the Portuguese Chemical Society (SPQ) and it has taken place at the campus of the Faculty of Sciences of the University of Lisbon. Therefore, to highlight this partnership, the key theme was 'Building Bridges of Cooperation in Separation Science'.

During 5 days, 6 plenary and 28 key notes lectures by international renowned invited speakers of 11 countries and 48 oral communications, split into parallel sessions, were presented. Regarding poster communications, about 200 posters were presented in 2 sessions.

The scientific program began on Tuesday 5th with two interesting courses about hyphenated and multidimensional gas and liquid chromatographic techniques, coordinated by Dr. Elena Stashenko and Dr. Fernando Lanças, respectively. In both, new approaches and applications of GC×GC and LC×LC were presented by experts in chromatography. Regarding the GC course, Dr. Cláudia Zini introduced the basic concepts about GC×GC, and Dr. Mondello explained advanced applications of this technique. In the afternoon, Drs. Anderson and Stashenko presented applications of ionic liquids (ILs) in GC-MS and tandem mass spectrometry detection, respectively. In the LC course, Dr. Lanças began with a presentation about LC-MS and LC-MS/MS, followed by two presentations about LC×LC by Dr. Queiroz and Dr. Schoenmakers. Finally, a nice welcome cocktail took place in the evening to welcome all the assistants.

On Wednesday, the day began with the open ceremony and with the award ceremony. During all the day, several plenary, parallel and poster sessions took place. Dr. Fernando Lanças, chairman of the congress, gave an extended plenary lecture about the thirty years of COLACRO history. Afterwards, Dr. Francisco Cereceda made an interesting presentation about the transport of polycyclic aromatic hydrocarbons (PAHs) and their deposition on snow samples from Chilean Andes and Northern Antarctic Peninsula. The next key note lecture was done by Dr. Valerie Pichon, who described biological and biomimetic tools for the selective extraction of compounds at the trace level in complex samples. After that, the first poster session took place during the coffee break. This time, about a hundred posters were presented and exhibited until Thursday. In the second part of the morning programme, Dr. Marcela Segundo gave an overview of bead injection as automatic sample technique. Three parallel sessions (each consisting of two communications), followed by a seminar given by Waters, concluded the morning session.

Dr. Boguslaw Buszewski opened the afternoon lectures giving an overview about the separation of biocolloids by electromigration techniques, highlighting that there is still a long way to go in this respect. After that, Dr. Salvatore Fanali presented his dissertation about chiral separations focused on the use of nano-liquid chromatography. These lectures gave way to three parallel sessions of two oral communications followed by one of the posters session A during the coffee break. The last key note of the day was done by Dr. M. Miró who provided an overview of the new approaches related to flow analysis for on-line sorptive microextraction. Afterwards, several Portuguese and Chilean speakers presented their research in parallel oral communications. To end up the day, participants tasted typical wine and cheese in the Lisbon City Museum meanwhile the Tuna, a group of young University students, performed some Portuguese songs.

Thursday morning, Dr. Elena Stashenko was in charge of opening first lectures session dealing with the isolation and chromatographic analysis of bioactive compounds of exotic plants from Colombia, where Dr. Stashenko conducts her research. Then, Dr. Eugenia Gallardo explained the challenges in the analysis of samples from a forensic toxicology perspective. Later, Dr. Carmen García Jares offered an overview of the analytical control of cosmetics highlighting the contribution of her research group in this area. After the coffee break and a posters session A, Dr. Eduardo Figueiredo spoke about obtaining and characterization of carbon nanotubes and molecular imprinted polymers for their application in the extraction of organic compounds directly from biological fluids. Before lunch, a triple session of oral communications and a seminar about analysis of dioxins by GC-QqQ MS given by Bruker were held.

Thursday afternoon was devoted to the VII Workshop on Recent Advances on Sample preparation (VII WARPA), a satellite event that in the last editions of the congress was included in COLACRO. WARPA consisted of six key note lectures that dealt with the state of the art of sample preparation techniques. In that sense, Dr. M.A. Queiroz gave an overview of the new trends in sample preparation for analysis of drugs in biological samples. Dr. J. Nogueira described some of the achievements made in his lab concerning new approaches based on microextraction techniques. Afterwards, Dr. E. Psillakis focused on the physical phenomena that take place during sorptive microextraction which are usually obviated by separation scientists. The next key note was done by Dr. E. Carasek who described some innovative microextraction procedures. Dr. R. Lucena spoke about novel extractant phases mainly using carbon nanotubes. Finally, the last key note of the day was done by Dr. A. Malik that gave an extended lecture on Sol-Gel materials for the analysis of biologically important molecules. To conclude the day, conference dinner was celebrated in Casa do Alentejo, a typical Portuguese restaurant, situated in Lisbon Old Town.

Friday started with a plenary lecture by Dr. L. Mondello in which several approaches based on comprehensive LC and GC were described for the analysis of food samples. After that, Dr. J. Anderson gave a key note lecture on the use of ILS as capillary columns for multidimensional gas chromatography and as extractant phases for microextraction. In the next key note, Dr. C. Zini explained the work done in her lab regarding the GC×GC-MS analysis of sulfur compounds in petroleum derivatives using ILS columns. Poster session B, where almost 100 posters were presented, started at coffee break time. The last key note lecture of the morning was done by Dr. M. Silva and dealt with several applications of GC×GC developed by the speaker's group. Three parallel sessions of two communications each concluded the morning session.

Friday afternoon began with a plenary lecture by Dr. P. Shoenmakers where the capabilities and applications of two-dimensional LC were explained. Next, Dr. F. Augusto gave a key note lecture reporting a wide range of advances and applications of GC×GC. Following the three parallel sessions, Dr. S. Rocha gave a key note lecture on several important aspects to be considered in the metabolomics analysis of microorganisms using GC×GC-ToF MS. To conclude the day at the congress, other three parallel sessions were held. After this intense conference day, the participants were invited to a nice "Lisbon by night" city tour.

The last day, Saturday morning, started with a plenary lecture given by Dr. A. Cifuentes from the National Research Council of Spain, about food ingredients, cancer and foodomics. In this line, the session was continued with two key notes, the first by Dr. J. Ferrero on the analysis of dechlorane plus and related compounds in food samples, and the second by Dr. R. Aires-Barros

on aqueous two-phase systems for extraction of biological products. After that, the last poster session B took place during the coffee break. Then, Dr. E. Ibáñez described the foodomics work developed in her lab on the discovery of new functional food ingredients with antiproliferative activity. A three parallel oral communication session gave way to the closing ceremony where awards to the best presentations were delivered and future conferences on chromatography were presented.

**María Celeiro<sup>1</sup>**

**María Eugenia Guerra<sup>1</sup>**

**Alexis Marsol<sup>2</sup>**

<sup>1</sup>*Universidad de Compostela*

<sup>2</sup>*Universitat de Lleida*