

ISC 2016 - 31TH INTERNATIONAL SYMPOSIUM ON CHROMATOGRAPHY

The International Symposium on Chromatography (ISC) is one the most traditional conferences concerning chromatography and separation sciences. It is a biannual congress and this year it took place from 28th of August to 1st of September in Cork (Ireland). It covers separation methodologies in all scales (preparative, fundamental, and applied science) and application fields such as pharmaceutical, bioanalytical, environmental, forensic, clinical, toxicological, and food analysis research. Furthermore, detection methods are also an important topic at ISC.

The schedule was organized during five days of plenary session, lectures, tutorial courses, posters presentations, and vendor lectures series on instrumentation and services for chromatography, separation science and mass spectrometry. Thus, the congress was organized into 32 sessions containing 9 plenary lectures, 27 keynote, 81 oral presentations, 10 tutorials, 3 short courses and 4 vendor seminars.

Concerning the poster sessions, 353 communications were presented in three different sessions (Monday, Tuesday, and Wednesday). The communications presented in this conference, dealt with different aspects of separation techniques, extraction techniques, metabolomics approaches, mass spectrometry detection, biomedical diagnostics, etc. Therein, researchers had the opportunity to present, share and discuss their latest results with the rest of participants. Several international renowned scientists composed the scientific committee and the meeting was chaired by Dr. Apryll M. Stalcup, from Dublin City University (Ireland), and Dr. Jeremy D. Glennon from University of Collage Cork (Ireland).

The ISC 2016 started on Sunday morning with three parallel short courses. The first one was centred in the development and control of robust HPLC methods by modelling; the second one about the fundamentals and practical aspects of UHPLC; and the last one dealt with the principles, instrumentation, method development and applications of supercritical fluid chromatography (SFC). In the evening, after completion of the courses, the Opening Ceremony took place with an enjoyable concert and then, an introduction to the congress was presented. Later, the Session 1 was started with a plenary lecture of the Dr. Daniel W. Armstrong focused on the use superficially porous particles in the ultra-fast chiral and achiral separations. Then, another interesting plenary talk was carried out by the hand of Dr. John Cryan about how the gut microbiome can better brain health. To finish the first day a welcome reception sponsored by Shimadzu took place in Devere Hall.

On Monday morning, the session began with the CASSS Award ceremony to Prof. Frantisek Svec for his important contribution in the separation science and in the development of organic-based monolithic columns that are finding applications in numerous fields. Subsequently, Dr. Frantisek Svec gave a plenary lecture where he reviewed the story of porous polymer-based monolithic columns. Another interesting plenary talk about LC-MS methods applied in sport drug testing was given by the Dr. Mario Thevis. After coffee break, three parallel sessions (Session 3, 4, and 5) and a Tutorial took place. Sessions were focused on the use of chromatography in the pharmaceutical analysis, on new materials used in chromatographic columns and issues related with the fundamentals of chromatography. Tutorial 1 was given by Dr. Didier Thiebaut and it was designed for people interested in SFC. After lunch, two successive Vendor Seminars of Shimadzu and Waters were performed. Later, other three parallel sessions (Session 6, 7, and 8) and two Tutorials were carried out. This time, sessions were dedicated to the new trends in the use of mass spectrometry, the analysis in 2D and biomedical analysis. In the Tutorial 2, Dr. Wolfgang Lindner talked about past and future of chiral separation and in Tutorial 3, Dr. David McCalley explained the role of the stationary

phase in HPLC and the new developments of column technology. Finished sessions, the first Poster session of the symposium took place. After this, several coaches brought attendees Cork City Hall where the Civic Reception was occurred. There we could enjoy a show of traditional dancing and Irish music.

On Tuesday, the congress started with three parallel sessions (Sessions 9, 10, and 11) and Tutorial 4. The Session 9 was focused on the use of new materials and technologies for the preparation of chromatographic columns, while Session 10 and 11 were focused on SFC (solvents, benefits and applications) as well as on the recent trends in sample preparation. The Tutorial 4 was given by Dr. Tony Edge and it was based on 2D-LC. After coffee break, three more parallel sessions (Sessions 12, 13, and 14) and Tutorial 5 took place. The Sessions 12 and 13 provided also a strong focus on column technology and sample preparation in different fields while Session 14 was focused on separation technologies for bio- and pharmaceutical analysis. Moreover, Dr. Gert Desmet talked about fundamental and practical aspects of UHPLC in Tutorial 5. After lunch break, one vendor seminar of Thermo Fisher Scientific was performed. Later, three more sessions (Sessions 15, 16, and 17) and two tutorials took place (Tutorial 6 and 7). The Session 15 was the most theoretical speech, aimed to discuss instrumentation and 2D HPLC. The Sessions 16 and 17 were focused on the analysis of environmental, biological and forensic samples. Moreover, Dr. Fiona Regan shared her knowledge about the role of temperature in HPLC and the advantages of column thermostating in Tutorial 6, moreover, Tutorial 7 was based on physical origins of band broadening in modern chromatography columns, given by Dr. Martin Gilar. Thus, the day concluded with the second poster exhibition which was carried out in Aula Maxima.

Three parallel sessions started on Wednesday (Sessions 18, 19, and 20). These sessions concerned a miscellaneous of different topics like Ion Chromatography (IC) (Session 18) and the application in the production of organic and inorganic profiles from Antarctic snow samples, on the other hand, the preparation of novel pellicular stationary phases in IC. The Session 19 was focused in Omics field, where Dr. Ian Wilson presented a nice talk on LC-MS and the application in Metabolomics, Metabonomics and Metabolic phenotyping. Next, three oral presentations over the benefits of separation techniques coupled to MS in omics studies were carried out. Third parallel session (Session 20) covered the Food and Health topic and was mainly focused in the analysis and the development of different methods to evaluate food quality, food authenticity, and food fraud. Afterward, three parallel session regarding microfluidic, Process Analytical Technology (PAT) and column technology (Sessions 21, 22, and 23 respectively) took place. Meanwhile, in the morning two tutorials were exposed, the first one, was presented by Dr. Jarel L. Anderson (Tutorial 8) and his talk on the potential of molecularly imprinted polymers as solid-phase extraction sorbent (their synthesis, applications, and the on-line coupling from LC to nano-LC) and the second one was presented by Dr. Ian Wilson in a deeply talk on metabolomics in Tutorial 9. Additionally, a vendor seminar from Agilent was presented. After lunch, three parallel sessions were about electrodriven separations (Session 24), Lipidomics (Session 25) and sharing Session 26, forensic and environmental topics. Simultaneously, Tutorial 10 was presented by Dr. Mel Euerby and he spoke about the relevance of the gradient in RP-LC. After a short break the last session of the day (Session 27) were two plenary talks, Dr. Pauline Rudd and Dr. JeanLuc Veuthey. During this day, the third poster exhibition was carried out in Main Building. To conclude the day, a Gala Dinner and Party took place in Ballymaloe restaurant where delicious typical Irish food could be tasted while listening to alive performed songs and enjoying typical Irish dancing.

The last day started with the Session 28 and the "3 minute presentations" of preselected posters presented during the congress for the Genzo Shimadzu Best Poster Award. Next, three parallel session were started after best poster competition. The Session 29 shared

Omics topic, where Dr. Coral Barbas spoke about metabolomics for nutrition and related diseases, and Food and Health topic where Dr. Irena Vovk talked about MS in the analysis of bioactive compounds in plant extracts and food supplements. Besides, the analysis of trace elements was discussed in Session 30. Third parallel session (Session 31), was focused in the last studies on sample preparation. Finally, the Session 32 included three plenary lectures, awards and the closing ceremony. Dr. Wolfgang Linder opened the plenary session speaking about chromatographic enantiomer separations, Dr. Gert Desmet and his talk about an overview and the future trends on dispersion in liquid chromatographic, and the last one plenary lecture was presented by Dr. Paul R. Haddad and his talk concerning the prediction retention times in different chromatographic modes based on chemical structures.

To conclude the congress, different awards like Fritz-Pregl Medal and ChromSoc award went to Prof. Wolfgang Lindner and to Prof. Ian Wilson, respectively. Additionally, eight Genzo Shimadzu best poster awards were given. Finally a video invitation for the next appointment of 32th International Symposium on Chromatography was presented by Dr. Didier Thiébaud. The next symposium will be held from 23th to 27th September of 2018 in the Centre Expo Congrès Mandelieu in Cannes-Mandelieu, France.

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