

The ISC congress is the most traditional conference regarding chromatography and other separation sciences, probably with the broadest coverage of topics. It is a biennial congress and this year it took place between September 14<sup>th</sup> - 18<sup>th</sup> in Salzburg. Five days with a schedule full of plenary, keynote, tutorial and research lectures, poster presentations, vendor seminars and exhibitions of the latest instrumentation from well-known manufacturers. 33 different sessions containing 8 plenary lectures, 27 keynotes and 81 oral presentations and 4 vendor seminars were presented. Concerning the poster sessions, 571 communications were presented in three different sessions (Monday, Tuesday, and Wednesday). It has to be highlighted the high quality of the communications presented, spanning different aspects of separation techniques, extraction techniques, metabolomics approaches, applicability to clinical diagnostics, etc. Therein, researchers from all over the world 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 Prof. Wolfgang Buchberger, from the Johannes Kepler University of Linz (Austria), and Prof. Michael Lammerhofer from the Eberhard Karls University of Tübingen (Germany). The honorary chair was Prof. Wolfgang Lindner from the University of Vienna (Austria).

The ISC 2014 meeting began a rainy Sunday morning with three parallel short courses. The first one, whose aim was the presentation of the current trends in clean-up of biomatrices for analysis of small molecules; the second one was centered in UHPLC method development and quality-by-design; and the third one was focused on fundamentals and trends in mass spectrometry. In the afternoon, the Opening Ceremony started with an enjoyable concert and then, an introduction to the congress was presented. Next, the Fritz-Pregl Medal Award was given to Prof. Pat Sandra for his extensive contributions in the field of separation sciences comprising different aspects going from research and methodological developments until education. Subsequently, Prof. Sandra gave an interesting lecture about advances in biopharmaceutical analysis. Then, another plenary talk was carried out by the hand of Dr. Jeremy Nicholson who introduced us to the analytical challenges of systems medicine and molecular phenotyping. To conclude this first session, Prof. Lammerhofer was awarded with the Jubilee Medal for his contribution to the development of chromatographic science. To complete this day the welcome reception took place in the exhibition area, where a buffet with all kinds of delicious foods were offered to all the participants.

Next morning started with session 2 which was divided in two main parts; the first one focused on small-sized monolithic silica and particulate columns for reversed-phase LC and the second one centered in the applicability of high-resolution MS in clinical and forensic toxicology analysis. After the coffee break, 3 parallel Sessions (Sessions 3, 4 and 5) as well as one Tutorial (Tutorial 1) were carried out. Session 3 was mostly focused on recent approaches in stationary phases materials and their applicability in HPLC and GC. At the same time, in the Session 4, a brief overview of the importance of HPLC-MS/MS and GCMS/MS in the field of clinical diagnostics and diseases prevention took place. Moreover, in Session 5, theoretical aspects concerning retention behavior in reverse phase, HILIC, core-shell or monolithic columns were discussed. In Tutorial 1, with Prof. Dr. Luigi Mondello as speaker, theory and practical aspects of comprehensive two-dimensional GC-MS as well as recent advances in instrumentation were presented. In the afternoon, three parallel sessions (Sessions 6, 7 and 8) and two Tutorials (Tutorial 2 and 3) were performed. Session 6 was dedicated to the discussion of selectivity enhancement in MS, the relation between chromatographic resolution and limit of detection in HPLC-MS and the quantification of co eluting compounds. Session 7 was centered in the versatility of MS in the determination of peptides, pharmaceuticals and lanthanides-polyaminocarboxylic acid complexes. On the other hand, in Session 8, people were invited to learn a little bit more about the points highlighted in Session 5. Tutorials 2 and 3 were designed for people interested in SFC and comprehensive two-dimensional LC.

On Monday evening, after the first poster exhibition, we were invited to a classical concert in the Salzburg Residence, where the “Cavalieri Quartett” played three pieces, “Streichquartett in D-Dur, „Lerchenquartett“, Op.64, Nr. 5 of Joseph Haydn, “Romanze aus dem Streichquartett Nr. 1” of Sergei Rachmaninoff and finally “Streichquartett in G-Dur, KV 387” of one of the most representative persons in Salzburg, Wolfgang Amadeus Mozart.

On Tuesday, the congress started with three parallel Sessions (Sessions 9, 10 and 11) and two Tutorials (Tutorials 4 and 5). These were focused on separation methodologies at nano/micro scales considering a variety of modern chromatography and electrophoretic techniques as well as the recent trends in sample preparation with applications in different fields such as food, bioanalytical, biopharmaceutical, clinical and toxicological. After the coffee break, three more parallel Sessions (Sessions 12, 13 and 14) and one Tutorial (Tutorial 6) were carried out. The Sessions 12 and 14 provided a strong focus on the hyphenation of separation technologies such as LC and CE with MS for the analysis of biopharmaceuticals and metabolomics. On the other hand, more theoretical speeches took place in Session 13, which aimed to discuss different parameters affecting the performance of the separation of analytes by means of LC (RPLC/HILIC). The Tutorial 6 was based on discussing advantages and disadvantages of HPLC and UHPLC making a comparison between these two methodologies as separation techniques employed in bioanalysis. Tuesday afternoon began with another three parallel Sessions (Sessions 15, 16 and 17) and two Tutorials (Tutorials 7 and 8), and was mostly dedicated to metabolomics and proteomics focusing on challenges and advances in chiral separations as well as on what can be achieved with ionic liquids in separation science, in particular in CE. Moreover the hyphenation of CE with MS for protein characterization and analysis as well as contribution of this approach in clinical diagnosis and monitoring were presented. On the other hand, strategies based on the hyphenation of GC with MS for metabolomics analysis were strongly addressed. The day concluded with the second poster exhibition.

Wednesday started with three parallel sessions (Sessions 18, 19, and 20). These sessions concerned diverse topics, ranging from omics approaches until multidimensional techniques, as well as discussion on separation materials. At the same time, those interested in CE and CE-MS hyphenation could attend a tutorial regarding this technique (Tutorial 9). Afterwards, sessions 21, 22, and 23 started. The latest advances and techniques on pharmaceutical analysis could be witnessed in Session 21, innovative sample preparation techniques were discussed in Session 22, and Session 23 comprised lipidomics and metabolomics studies by MS detection. In the meanwhile, Tutorial 10 was focused on the use of quantitative LC-MS for biomonitoring. Three more parallel sessions started next (Sessions 24, 25, and 26), regarding SFC, multidimensional techniques, and environmental analysis, respectively. In the meanwhile, Dr. Andras Guttman offered a tutorial regarding analytical and translational glycomics (Tutorial 11). Last poster session of the congress started next and by the time it finished the fifth plenary session began. Therein, Dr. Daniel Armstrong spoke about ionic liquids in separations and MS. Finally, a plenary discussion session about the potential of modern SFC platforms and its applicability started. To conclude the day, Oktoberfest conference party took place in the “Stieglkeller” restaurant, where delightful food and Austrian beer could be tasted while listening to wonderful live performed songs.

The last day of congress started with the “Blitz-Presentations” of posters nominated for the Shimadzu best poster award. Three parallel sessions started after (Sessions 30, 31 and 32). Session 30 was dedicated to the discussion on different Clinical/Biomarker analysis mainly by LC. In Session 31 Marja-Liisa Riekkola spoke about new materials in integrated air sampling and sample pretreatment, Aleksandra Zatirakha presented the application of epoxy

compounds for ion chromatography and Manuel Miro spoke about onchip sample processing based on flow programming coupled to chromatographic assay. Session 32 was focused on new trends of selectivity and miniaturization for LC and CE. The last session (session 33) comprised three plenary lectures. The first one was presented by Dr. Jonas Bergquist who spoke about analytical insights in neuromuscular degeneration. In the second plenary lecture, Govert W. Somsen presented CE-MS as a tool for the quality assessment of biopharmaceuticals and the third lecturer was Gerard Hopfgartner who spoke about the alternatives workflows applied to drug metabolism and metabolomics.

In the closing ceremony, Frantisek Svec and Wolfgang Lindner were given the Nernst-Tswett award. Also, eight Shimadzu best poster awards were given. Finally a video invitation for the next appointment of International Symposium on Chromatography was showed. The next ISC meeting will be held from 20<sup>th</sup> August to 1<sup>st</sup> September of 2016 in the University College of Cork, Ireland.

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