

institutions of Mexico and the participation of prestigious researchers in the CSI's International Advisory Board and the LAMLIBS Scientific Committee. The conferences were held under the auspices of IUPAC, the Optical Society of America (OSA), the International Centre for Theoretical Physics (ICTP), the National Council of Science and Technology of Mexico (CONACYT), the Mexican Physical Society and the Mexican Chemical Society.

For five days, 290 participants from 32 countries exchanged their research work and innovative ideas. Plenary, invited, and keynote lectures were presented by recognized scientists in various kinds of spectrometry such as atomic, mass, molecular, nuclear, X-Ray, and others. Applications in archaeometry, materials, medicine, biology, industry, forensic, and environmental sciences along with fundamentals were presented in 92 oral presentations and 170 posters. The seven plenary lectures, held by eminent researchers: Da-Wen Sun (National University of Ireland/South China University of Technology), Jorge Peón-Peralta (Institute of Chemistry, National and Autonomous University of Mexico), Joana Szpunar (French National Research Council), Alessandro DeGiacomo (University of Bari, Italy), Micha Bonn (Max Planck Institute for Polymers, Germany), Zoltan Mester (National Research Council Canada) and Ralph Sturgeon (National Research Council Canada), were broadcast live on the web channel of the UNAM in order to extend the impact to the conference. Fourteen invited lectures and fifteen keynote presentations were given by outstanding scientists within 17 parallel sessions.

The last day of the conference was dedicated to awards and student poster prizes. Ralph Sturgeon was the recipient of the 2019 CSI Award (a prestigious Life Achievement Award) to recognize his contributions to analytical spectrometry through the improvement and developing of new methods for trace elements analysis. The 1<sup>st</sup> LAMLIBS Award was presented to Vincenzo Pallechi to recognize his outstanding contribution to fundamentals and applications of LIBS. The poster prizes sponsored by OSA and the Journal of Analytical Atomic Spectrometry were given in recognition of outstanding poster presentation to 6 students.

Two special sessions were held at the conferences: a round table of LIBS in Latin America and a session dedicated to LIBS and the periodic table of elements. The latter was part of the celebration of the 2019 International Year of the Periodic Table. The former was aimed to discuss the current situation of LIBS research in the region to promote the collaboration and strategic alliances between research groups. As a result,

a committee with representatives from each country was set up seeking to organize a second LAMLIBS meeting. Our aim is to apply spectroscopy in the use and management of local natural resources and the preservation of local cultural heritage.

IUPAC contributed extensively with the CSI XLI-I LAMLIBS conference by means of its Program Financial Support for Conferences for Scientifically Emerging Regions (FSC-SER). The IUPAC support allowed the attendance of one invited researcher from Argentina and 10 students from Latin America countries. The President of the IUPAC Analytical Chemistry Division and CSI's Continuation Committee member, Zoltan Mester, gave a plenary lecture about the new definition of the mole, which gathered large interest from the conference participants.

The National Delegate's Meeting of CSI XLI was held during the conference, where it was unanimously decided that Japan will host the CSI 2023. The next edition of the CSI in 2021 will be held in Gijon, Spain chaired by the Professor Jose Manuel Costa from the University of Oviedo to continue with the important tradition to share frontier knowledge around spectroscopy.

In addition to the academic activities, cultural and social activities were performed to better know the wide cultural heritage of Mexico and to celebrate the diversity of the different participants from all over the world.

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## ***Solution Chemistry in Action!***

by Yongquan Zhou (Roger)

Held in Xining, China, 4-8 August 2019, the **36th International Conference on Solution Chemistry** (ICSC2019) had more than 226 registered participants from 22 countries at the conference, with every continent represented. The 32 invited lecturers gave 5 plenary, 5 keynote and 22 invited talks; all of them are a very high standard. 30 section oral lectures were chosen from the 41 applicants, taking regional and gender balance into consideration. The five plenary speakers were:

- Glenn Hefter (Murdoch University, Australia),
- Buxin Han (Institute of Chemistry, CAS, China),
- Yoshifumi Kimura (Doshisha University, Japan),
- Pal Sipos (Szeged, Hungary), and

## Conference Call



热烈庆祝IUPAC成立100周年 (36ICSC 中国·西宁 2019年8月5日)

A Warm Celebration to the 100<sup>th</sup> Anniversary of IUPAC (36ICSC Xining·China Aug. 5, 2019)



- Zhijian Wu (Qinghai Institute of Salt Lakes Chinese Academy of Sciences, China);
- The keynote speakers were:
- Edgar Vargas (Bogotá, Colombia),
- Paola D' Angelo (Universita' di Roma "La Sapienza," Italy),
- Susumu Okazaki (Nagoya University, Japan),
- Marie Claire Bellissent Funel (French National Centre for Scientific Research, France) and
- Jianji Wang (Henan Normal University, China).

In addition, 96 posters were presented. All the posters were carefully evaluated by five poster assessors. 10 well done and 5 excellent posters were selected. Earle Waghorne presented the excellent poster prizes with an extra 100 Euro book voucher, sponsored by SPRINGER. They are: Payam Kalhor (Tsinghua University, China/Iran), Xiaolei Hao (Tsinghua University, China), Kazuhiko Ohashi (Kyushu University, Japan), Dongdong Li (Qinghai Institute of Salt Lakes, CAS, China), and Kenzo Aki (Himeji Dokkyo University, Japan).

In order to give more opportunity and exposure to young scientists, organizers held a special session for young speakers under 35 years old. Nearly 20 youth speakers chose this session, and we selected 10 of them as the youth forum speakers, taking gender, research fields, and region into consideration. Two excellent youth forum speakers were selected: Bence Kutus (Max Planck Institute for Polymer Research, Germany) and Shangqing Chen (Tianjin University of Science and Technology, China).

Glenn Hefter, IUPAC representative to ICSC2019, gave a 10-minute talk detailing the various activities of IUPAC, the 100th anniversary of IUPAC, and a coming special issue in *Pure and Applied Chemistry*. Earle Waghorne gave a 5-minute talk detailing the upcoming special issue in *Journal of Solution Chemistry*.

During the conference, the International Steering Committee Meeting was held on 6 August with Toshio Yamaguchi (The incumbent chair of ICSC) as

moderator. The next, 37th, ICSC will be held in 2021 in Cartagena, Columbia; the organizers gave a presentation and demonstrated that all the necessary preparations are well underway. The international steering committee hopes the ICSC2021 will attract more American participants, who have not been very active in this area in recent years. Tunisia, Serbia, and Italy showed their intention to becoming the potential organizer of ICSC2023. The potential organizers from Tunisia and Serbia gave presentations about their plan while Italy attended as an observer. The International Steering Committee selected Belgrade, Serbia to organize the 38th ICSC in 2023.

Marija Bešter Rogač from Slovenia was elected as the new member of the International Steering Committee of ICSC. This year, we lost two respective members of the International Steering Committee; one-minute of silence prayers were held during the open ceremony and at the beginning of International Steering Committee Meeting.

Beyond the busy scientific schedule, the conference was rich in social events. The opening ceremony was held in QISLCAS with local government leaders as the attendees, which has been reported by four national media outlets. The conference excursion included the Exhibition Room of QISLCAS, Plateau Biological Herbarium of Northwest Institute of Plateau Biology CAS, and the Tibetan Medicine Museum of China. The conference excursion destinations are full of local characteristics *i.e.* Tibetan and Plateau. The friendly and harmonious banquet and awarding ceremony was held in Wanda Ream, one of the most luxurious banquet halls in Xining.

ICSC2019 got adequate financial support from the Chinese Academy of Science, Lanzhou Branch of Chinese Academy of Science, and Tianjin University of Science and Technology etc. Nine companies also contributed to this conference through commercial sponsors; they are CasMart, ASONE, Anton Paar, Metrohm,

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PerkinElmer, Mikrouna, IKA, Huber, and Springer. With their generous contribution, nice conference services were provided, such as free buffet for lunch and supper, free poster print service, free take/delivery service, and cash award for the poster and youth forum winners, etc. To alleviate the discomfort of delegates caused by the language difference, 20 volunteers with good English communication abilities were recruited. Four Journals acted as the academic sponsors, they will issue special issues for this conference; they are *Journal of Salt Lake Research* (Pre-Conference, English edition has been published, [http://yhyj.ijournal.cn/ch/reader/issue\\_list.aspx?year\\_id=2019&quarter\\_id=2](http://yhyj.ijournal.cn/ch/reader/issue_list.aspx?year_id=2019&quarter_id=2)), *Pure and Applied Chemistry*, *Journal of Solution Chemistry*, and *Computer and Applied Chemistry* (Post-Conference).

Thus, ICSC2019 was successful on several fronts: high-quality science, interesting social programs, and nice conference services.

Special thanks go to the Chinese Chemical Society Subcommittee on Thermodynamics and Thermal Analysis (especially Jianji Wang and Zhiwu Yu).

Special thanks also go to the organisers from the QISLCAS (especially Changling Zhao, Hongen Nian, and Jingjing Li) and Tianjin University of Science and Technology (especially Tianlong Deng, the co-chairman of ICSC2019) and to the contributing members of the Solution Structure Research Group at QISLCAS: Dengke Pang, Guangguo Wang, and Zhuanfang Jing.

ICSC looks forward to meeting again in Cartagena in 2021!

**Yongquan Zhou (Roger), Secretary-General of the 36ICSC Local Organizing Committee Qinghai Institute of Salt Lakes, Chinese Academy Of Sciences**

### Flying Chemistry Educator Program in Ulang Bataar, Mongolia

by Jan Apotheker, Anna Marakova, Aurelia Visa

Masahiro Kamata, a long time Titular Member of the IUPAC Committee on Chemistry Education (CCE), visited Mongolia regularly since 2006, to advise school teachers. He used his contacts to initiate the negotiations to organize both a “Young Ambassadors for Chemistry” as well as a “Flying Chemistry Educator Program” (FCEP) at the University of Mongolia in Ulang Bataar from **17-22 September 2019**. Ochirhuyay Bayanjargal, vice president of the University, worked together with CCE to organize the FCEP. 28 lecturers from the University, 27 secondary school teachers and 17 researchers from different institutions participated in the event. For IUPAC, two members from the

Interdivisional Committee on Green Chemistry for Sustainable Development (ICGCSD), Anna Marakova and Aurelia Visa were presented and Jan Apotheker, Mei-Hung Chiu, and Masahiro Kamata represented CCE. The project was financed jointly by ICGCSD and CCE.

The focus of the three-day program of the FCEP was development of Green Chemistry in Mongolia. The university wanted to start a course in Green Chemistry; the secondary school teachers wanted to start a module about Green Chemistry; the researchers were interested in starting research in Green Chemistry. It was an ambitious program for a three-day session.

After the introductions and welcome by Bayanjargal, Jan Apotheker introduced IUPAC, as well as the International Year of the Periodic Table.

Anna Makarova made a short presentation on the topic “What is Green Chemistry?”. As part of this lecture, participants were given a definition of Green Chemistry and 12 basic Green Chemistry principles. Discussion the role Green Chemistry in implementation UN Sustainable Development Goals (2015) and its role in observing planetary boundaries. UN Environment (Global Chemicals Outlook II) [1] data were presented for the market size of the global green chemistry industry (2015-2020) and the global green chemicals market by region (2011-2020), of which the Asia-Pacific region have more than 30 %.

After her presentation Makarova organized a discussion framing the possible advantages of introducing Green Chemistry as well as a possible strategy (main activities) of the development of Green Chemistry in Mongolia. The VISIS method and technology “Pyramid” developed by Atkisson and others was used [2] for clarity and visualization of the discussion. The VISIS method takes its name from its five stages:

**Vision and goals:** In this case, the main goals of the object of research were the creation of courses and training modules as well as the organization of research projects in the field of green chemistry.

**Indicators:** This stage includes analysis of available data on the effects of the object of research on environmental, economic, societal and individual well-being dimensions, and identifying current trends.



Jan Apotheker introducing IUPAC