

Chemistry related to Health

- Addressing antibiotic resistance—the silent pandemic
- Targeting toxic proteins for detection and destruction
- Are we prepared for the next pandemic?
- The role of computational chemistry in the mitigation of infectious diseases from characterization of emerging pathogens to drug development

Chemistry related to Sustainability

- Development of new reaction pathways towards Green Chemistry
- Prospects of CO₂ capture & activation for a circular chemical industry
- Electrocatalysis and the synthesis of high-value chemicals
- New plastics circular by design
- A Sustainable Planet and Society
- Chemistry and AI

Smart and Energy Materials

- Complex metal oxides for energy applications
- Materials and interfaces for next-generation batteries
- Dynamical molecular systems for brain-inspired computing
- Ethics, Education and Society
- Crafting an ethical framework for global chemistry
- Make the good choice! Ethics and dual use in chemistry
- Meeting the modern challenges of chemical weapons
- Systems thinking as a linchpin in chemistry education

Apart from oral presentations, there were large number of posters.

The organizers also made other program to make the whole event interesting. It included a quiz, a Chemistry Party, a Meet and Greet with Nobel Laureate Ben Feringa and other eminent scientists, a Tour of the Office of the Organization for Prohibition of Chemical Weapons (OPCW), and a Beer and Cheese Factory tour.

After 7 days of hectic activities, the program came to an end. At the closing ceremony, the baton was passed from The Netherlands to Malaysia. The next Congress will be held in Kuala Lumpur in 2025.

See <https://iupac2023.org/> for photos albums and aftermovie.

Two IUPAC Poster Prize Certificates awarded at the 75th Annual Congress of the Slovak & Czech Chemical Societies

by Milan Drábik

The 75th Annual Congress of the Slovak & Czech Chemical Societies (held from 4-8 September 2023 in High Tatras, Slovakia) attracted nearly 400 participants who presented and discussed the large scope of topics and achievements of chemists from Slovakia and The Czech Republic. The program comprised an exclusive plenary lecture – *Mass photometry: weighing molecules with light*, by Prof. Philipp Kukura, Oxford University, U.K., invited lectures, lectures and poster presentations. The organisers had the credit and responsibility to decide on two awardees of IUPAC Poster Prize Certificates. The IUPAC Poster Prize is aimed at PhD students and chemists younger than 40 years, thus poster presentations of nearly 100 young colleagues have been monitored and evaluated with the aim to choose two posters and authors to be awarded. The members of ad-hoc monitoring and evaluating committee, chaired by Milan Drábik, after two evenings of viewing of posters and scientific discussions with authors decided to award and present the certificates to:

Dhiya Krishnan, PhD student at the Institute of Inorganic Chemistry, Slovak Academy of Sciences, Bratislava, Slovakia; **for the poster entitled “THE PHASE EQUILIBRIA OF Na₃AlF₆–NdF₃ AND (Na₃AlF₆–NdF₃)_{EUT}–Nd₂O₃ SYSTEM”**.



From left to right: Assoc. Prof. Monika Jerigová – chair of the Organizing Committee of the 75th Annual Congress of the Slovak & Czech Chemical Societies, Ms. Dhiya Krishnan – IUPAC Poster Prize awardee, Assoc. Prof. Milan Drábik – Chairman of Slovak National Committee of IUPAC, Prof. Ľubomír Švorc – president of Slovak Chemical Society



Chairman of Slovak National Committee of IUPAC (Milan Drábik) with IUPAC Poster Prize awardees holding the Certificates (left to right: Martina Machalová and Dhiya Krishnan)

Martina Machalová, PhD student at the Institute of Chemistry and Technology of Environmental Protection, Faculty of Chemistry, Brno University of Technology, Brno, Czech Republic; **for the poster entitled “LA-ICP-MS IN MEDICAL RESEARCH”**.

Awardees, when asked to describe in brief their research and results for readers of *Chemistry International*, answered confidently as follows. **Dhiya Krishnan**: “I conducted the thermal analysis to investigate the phase equilibria of molten salts to determine the temperatures of primary crystallization and the eutectic temperatures. Notably, the research revealed that the solubility of Nd_2O_3 in the molten eutectic system of $\text{Na}_3\text{AlF}_6\text{-NdF}_3$ is relatively high compared to the solubility of Nd_2O_3 in the current molten industrial electrolyte (2 wt.%, 0.96 mol.%) for the electrowinning of neodymium (LiF-NdF_3). Results of this investigation hold the potential to provide useful information for electrometallurgical applications, particularly in the electrowinning of Nd and related rare earth elements.”

Martina Machalová: “The presented contribution – LA-ICP-MS in medical research, was focused on the application of laser ablation inductively coupled plasma mass spectrometry in 2D elemental imaging within soft tissue. In this context, a methodology has been developed for the analysis of rat heart sections to study the changes in elemental distribution as a result

of myocardial fibrosis. A positive correlation has been found between increased iron distribution and the myocardial fibrosis locations.”

Milan Drábik is the Chair of Slovak National Committee of IUPAC and in IUPAC, he is Titular Member of ICTNS.

Network of Inter-Asian Chemistry Educators – or just NICE

by Soon Ting Kueh, Zuriati Zakaria, and Yvonne Choo Shuen Lann

The 9th Network of Inter-Asian Chemistry Educators (9NICE) Conference 2023 was held in the city of Kuching, Sarawak, Malaysia from 28-30 July 2023. With the theme of “**Chemistry for Sustainable Development & Environmental Protection**,” the 9NICE Conference 2023 comprised the following:

Lectures: Keynotes, oral & poster presentations

- Cultural & Nature Tours
- Exhibition
- IUPAC Young Ambassadors of Chemistry (YAC) programme

9NICE 2023 was organized by Institut Kimia Malaysia (IKM) in collaboration with IKM Sarawak Branch Committee, Institute of Teacher Education (Batu Lintang Sarawak), Education Department of Sarawak, Universiti Malaysia Sarawak (UNIMAS) and Department of Chemistry, Sarawak. The conference is supported by IUPAC, IKM Law Hieng Ding Foundation and Business Events Sarawak.

NICE is a network of chemistry educators from four Asian countries/regions, namely Japan, Korea, Malaysia, and Taiwan. The main objective of NICE is to promote chemistry education among the younger generation. It also aims to create a network of chemistry educators to share experience and expertise in the teaching and learning of chemistry. NICE organizes a biennial conference and in 2023, the 9NICE Conference was held from 28-30 July 2023 in the nostalgic city of Kuching in Sarawak, Malaysia. The participants of NICE conferences are mainly chemistry educators, teachers and students. This year's 9NICE Conference attracted 197 participants from 6 countries. The programme included a total of 57 presentations including 4 keynote lectures, 27 oral and 26 poster presentations from 6 countries. The presentations cover many areas in chemistry education,