Closing Remarks

The closing remarks were given by Christopher Brett, IUPAC President, who expressed his thanks to the organizers; and by Marco Bella, Member of Parliament of the Italian Republic in the Chamber of Deputies and Professor at La Sapienza University of Rome. Bella underlined the crucial role of a better university education and the need to create a better world not producing “more”, but rather producing “better.” At the end, Aurelia Visa delivered relevant statistics associated with countries, gender, scientific output, awards, grants, etc. about this Summer School attendance. It was announced that the 14th Green Chemistry Postgraduate Summer School will be held online/live and in-person 3-8 July 2022 in Venice, Italy.

Conclusion

The experience from the past 13 editions of the Summer School on Green Chemistry, held from 1997 to 2021 with more than 1000 postgraduate students attending, tells us that young chemists are interested in Green Chemistry and understand the important role of Green Chemistry in building a sustainable society. Green Chemistry is a good key for students to look around scientific disciplines and decide how and where to go forward using Green Chemistry principles. From the outcomes of this latest hybrid Summer School, we learned how to manage the future Summer Schools in a hybrid format, giving a very valuable opportunity to the postgraduate students from emerging nations, who cannot afford travelling to attend in person. This Summer School represents a turning point for a new kind of outreach and capacity building, considering the high quality of scientific contributions, the Green Deal, and a fast scientific progress in developing countries. Our ultimate goal is to make the Summer School a permanent event to be held every year in Venice, Italy. Thanks to the involvement and active participation of outstanding lecturers, partners, and sponsors, we hope to achieve this goal in the near future.

Acknowledgments

The Summer School was organized and managed by the Green Sciences for Sustainable Development Foundation (www.gssd-foundation.org), a non-profit organization based in Venice, Italy, in collaboration with IUPAC, Ca' Foscari University of Venice, and the Italian National Commission for UNESCO Roma. The Summer School was also endorsed by the Ministero della Transizione Ecologica, UNESCO-UNITWIN “Green Chemistry Excellence from Baltic Sea to Mediterranean Sea and Beyond, European Chemical Society,

Associazione Italiana per la Ricerca Industriale, The World Academy of Sciences (TWAS), and Patrocinio Regione del Veneto, and Citta' di Venezia. The Summer School was financially sponsored by the Organization for the Prohibition of Chemical Weapons (OPCW), PhosAgro, the Royal Society of Chemistry, and GreeNovator.

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<https://www.greenchemistry.school/>

Congress of the Slovak & Czech Chemical Societies

by Milan Drábik

The 73rd Annual Congress of the Slovak & Czech Chemical Societies, held 6-10 September 2021 in High Tatras, Slovakia, attracted nearly 400 participants who presented and discussed the large scope of topics and achievements of chemistry research in Slovakia and Czech Republic. The program comprised an exclusive plenary lecture by Pavol Čekan on Development of quantitative and multiplex diagnostic technologies and application, and several invited lectures, lectures, and posters.

As an on-going tradition, the organisers were eager to award IUPAC Poster Prizes to the best posters and as before, they proceeded with the challenging task of reviewing and judging all the submissions. The IUPAC Poster Prize is aimed to PhD students and chemists younger than 40 years, thus poster presentations of 107 young colleagues (from among the total number of more than 200 posters) have been monitored and evaluated with the aim to choose two posters and authors to be awarded. Members of the ad-hoc monitoring and evaluating committee have been Jan John, president of Czech Chemical Society, Eva Víglášová, guarantee of the poster sessions of the Congress, Pavol Čekan, and Milan Drábik, chair of Slovak National Committee of IUPAC. After two evenings of viewing posters and discussions with authors, the committee decided to award and present the certificates to:

- **Klaudia Kvaková**, PhD student at Institute of

Conference Call

Organic Chemistry and Biochemistry of the Czech Academy of Sciences, Prague, Czech Republic: *Fluorescent Nanodiamonds Modified With Biocompatible Polymers*

- **Elena Kupcová**, university teacher at Department of Chemistry of the Matej Bel University, Banská Bystrica, Slovakia: *Sample Pre-Treatment and Determination of Polycyclic aromatic hydrocarbons Mixture in Different Types of Matrices*

Klaudia Kvaková explains the theme of her research and poster: Sentinel node(s) (SN) mapping became the standard procedure used in cancer diagnostics. However, agents commonly used to map the nodes have several major drawbacks. Fluorescent nanodiamonds (FNDs) are biocompatible materials that exhibit unique optical properties enabling their visualization in biological systems and thus could replace the now commonly used agents. Here we focus on the preparation of FNDs labelled with D-mannose for SN visualisation. It has been also shown that these particles interact specifically with macrophages, which are retained in the lymphatic nodes providing their clear imaging contrast.

Elena Kupcová gives insight into the theme of her research and poster: Polycyclic aromatic hydrocarbons (PAH) are very persistent organic contaminants found not only throughout the whole spectrum of environment such as soil or water, but are also carefully monitored in the food. The poster presents analytical methods applicable to the determination of 18 PAHs in water, soil and meat samples; the data acquired by three extraction methods (Soxhlet extraction, solid-phase extraction, liquid-phase microextraction) and two chromatographic methods (high-performance liquid chromatography coupled with fluorescent and UV detection, gas chromatography coupled with mass spectrometry) are compared.

The 53rd International Chemistry Olympiad in (Virtual) Japan

by Nobuhiro Kihara

The International Chemistry Olympiad (IChO) is an annual competition for talented students who are interested in chemistry. Nations around the world send a delegation of up to four students at the secondary school level along with two pedagogically professional mentors. In a usual IChO, the participating students are tested on their chemistry knowledge and skills in a five-hour laboratory practical examination and a

five-hour written theoretical examination.

The IChO program is intended to stimulate students' interest in chemistry through solving creative chemical problems that are both practical and theoretical. It also aims to promote international contacts in chemistry, friendships between young chemists of different nationalities, cooperation among pupils, and exchange of scientific experiences in chemistry. The first IChO was held in the former Czechoslovakia in 1968, and the event has been held every year since then. The delegations that attended the early events were mostly countries of the former Eastern Bloc, and the event was not held outside the Bloc until 1980 when it was held in Austria.

All participants are ranked according to their individual scores, and no official team scores are given. Gold medals are awarded to the top 10 % of students, silver medals are awarded to the next 20 % of students, and bronze medals are awarded to the next 30 % of students. Honorable mentions are awarded to the top 10 % of non-medalist students.

The IChO is composed of three key elements:

Examination

Chemistry is an experiment-based science, with every theory coming out of the laboratory. Therefore, both theoretical and practical examinations play important roles in the IChO.

Japan held the 53rd IChO in July 2021. It was originally planned to follow the 2020 Olympic and Paralympic Games in Tokyo. We anticipated that popular interest in chemistry would be enhanced by a scientific Olympiad being held after the excitement of a sporting Olympiad. When we heard the first reports of COVID-19 early in 2020, it appeared to be a minor concern. Despite the virus being thought of as causing a new kind of cold, we knew that the common cold is inactive in summer when the IChO was to be held. However, shortly after the pandemic spread across the globe, it became evident that COVID-19 was active