

Chemistry and science education in the 45th IUPAC World Chemistry Congress (IUPAC-2015)



The 45th IUPAC World Chemistry Congress (IUPAC-2015) was held in Busan, Korea on August 9-14, 2015 under the theme of “**Smart Chemistry, Better Life**”. The agenda of IUPAC-2015 was to emphasize the central role of chemistry as a multidisciplinary science to promote the quality of life and welfare through innovative scientific achievements and to discuss current issues of mutual interest. Very interesting Congress activities were centered in questions of how to solve problems related to energy, food, water, and environment and other crucial topics of human life. In this regard IUPAC-2015 provided a variety of opportunities to exchange ideas and expertise as well as network with worldwide research groups.

One of the biggest conferences in the World, IUPAC-2015 welcomed 3,787 participants from 79 countries.

The congress proposed a rich scientific program that allowed participants to deepen their knowledge and have discussions with each other. It included plenary/keynote/invited lectures, session talks, poster presentations, and workshops under 12 major themes and over 116 symposia. The many high-quality lectures, the Organizing Committee invited 437 speakers from 31 countries including 4 Nobel laureates, made the Congress all the more fruitful.



The themes of chemistry and science education were well represented in the Congress too. For example, Prof. N. Tarasova (Russia) delivered an interesting lecture *Chemistry: Meeting the Worlds' Needs*?

The plenary lecture of the Nobel laureate in Physics, 2010 Prof. A. Geim (UK), *Van der Waals Heterostructures and Beyond* was not about an educational theme, but stressed important details of modern nanochemistry and nanophysics, which had a lot of educational applications too.

In the educational area some interesting Symposia were organized: *Curriculum and Evaluation*, *Chemistry Education for the Future: A Global Perspective*, *Best Practices in the Teaching and Learning of Chemistry*, *Sustainable Chemistry Education*, *Research and Practice*. There were many important works presented in poster sessions too.

Our JSE was well represented in the Congress too and Members of JSE Committee delivered very engaging presentations: professors I. Maciejowska (Poland), M. Kamata (Japan), P. Mimerio (France), Mei-Hung Chiu (Taiwan), and others.

A lot of new works of chemistry and science education were well met with great interest by presenters. Some of them are:

Materials Based Science Education (MBSE) (M. Kamata, Japan), Promoting Global Chemistry Education via the Development of International Standards of Chemistry Education (Mei-Hung Chiu, Taiwan), Research on Learning in the Academic Laboratory in Tertiary Education (S. Sandi-Urena, USA), Impact of Nanotechnology on Chemistry and Chemical Engineering Curricula (D. Benachour, Algeria), What Happens During a Chemical Reaction? Students' Perceptions (L. Mammino, South Africa), A comparative and analytic study of activities of science and Chemistry textbooks for secondary school between South Korea and North Korea (HyunJu Park, GeonHee Kim, DaHee Jung, Yoojin Cho, Korea), 3D-printed setups for demonstrating pollutants photo-degradation in liquid and gas-phase (B. Stefanov, et al, Sweden), Chemistry of Paintings: How to Involve 8-10 y.o. Children for Two-Hours Session without Breaks (D. Zhilin, M. Tokareva, Russia), Project-based learning as a way to cover the gap between school curriculum and contemporary chemistry (O. Koliashnikov, et al, Russia), Teacher Training at Chemistry Faculties – Mutual Benefits? A Case Study Based on the Example of the IRRESISTIBLE Project (I. Maciejowska, et al, Poland), ECTN and EC2E2N: 19 years of a successful European Chemistry Thematic Network story (P. Mimerio, A. Smith, R. Whewell, France, UK) and many other works.

The social and cultural program was very well organized too. There were various activities of Korea Chemical Society, Royal Chemical Society (RCS), interesting excursions in Busan and other parts of the country.

The next IUPAC 2017 will be held in Brazil.

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