

Preface

Nikolay E. Nifantiev*

Research papers from the XXth Mendeleev Congress on General and Applied Chemistry

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The XXth Mendeleev Congress on General and Applied Chemistry was held on September 21–26, 2016 in Ekaterinburg under the auspices of IUPAC. Mendeleev Congresses are the main Russian chemical forums which typically take place every 4 or 5 years and usually proceed in major regional centers of the country. Ekaterinburg is one of the biggest industrial, cultural, and scientific centers of Russia, with renowned universities, research institutes of the Ural Branch of the Russian Academy of Sciences, and industrial corporations, including giant metallurgical plants.

The first Mendeleev Congress was held in Saint Petersburg in 1907 in memory of the prominent Russian chemist D. I. Mendeleev (1834–1907). Further Congresses were held in a number of famous scientific centers all over the USSR: in Moscow, Leningrad (St. Petersburg), Kazan, Kharkov, Kiev, Alma-Ata, Baku, Tashkent, and Minsk. The XIXth Mendeleev Congress (Volgograd, 2011) was associated with the International Year of Chemistry, while the jubilee XXth Mendeleev Congress was dedicated to “New horizons of chemistry in the XXI century”.

Mendeleev Congresses welcome scientists from all over the world to discuss groundbreaking scientific and industrial achievements in chemistry. Mendeleev Congresses are recognized as the largest Russian scientific events focusing on both fundamental and applied chemical research studies. They traditionally maintain interdisciplinary programs that highlight new research directions, as well as advances in chemical industry and professional education. In addition to scientific discussions, Mendeleev Congresses feature networking links between business, industry, and the academy.

The XXth Mendeleev Congress is not an exception, and it can be considered as one of the most successful scientific events of this type. It was led by Academician O.M. Nefedov, a former Bureau Member of IUPAC. Over 2000 Russian scientists and their colleagues from 38 foreign countries from all over the world took part in the extensive scientific program managed by the Program Committee, chaired by Academician A.Yu. Tsivadze, the Secretary of the Division of chemistry and material sciences of RAS. The program included plenary sessions, nine parallel sections, three international satellite symposia, and four round table discussions. Altogether, they broadly covered the essential directions of chemical science, technology, and education, including material sciences and nanotechnology, molecular electronics, supramolecular chemistry, electrochemical power engineering, catalysis, energy resources and raw materials, reproducible biomass conversion and biorefinery, drug discovery and biomolecular chemistry, agrochemistry, ecology, and many other chemistry-related studies.

A special program and competition, a “Chemical challenge” for scholars and students, as well as a large trade show and an exhibition were also arranged in association with the Congress. These events provided a fruitful environment that promoted and stimulated collaboration among scientists and chemical engineers,

*Corresponding author: Nikolay E. Nifantiev, The Corresponding Member of RAS, IUPAC Titular Member, Chair of IUPAC Division III “Organic Synthesis” Sub-committee (2016–2018), Head of the Laboratory of Glycoconjugate Chemistry, N. D. Zelinsky Institute of Organic Chemistry, Russian Academy of Sciences, Leninsky, Prospect 47, 119991 Moscow, Russian Federation, e-mail: nen@ioc.ac.ru

thus encouraging the development of cutting edge research and technologies. In addition to the exciting scientific sessions and productive discussions, a very interesting social program was organized during the XXth Mendeleev Congress, which gave participants unforgettable personal impressions of the Ural region and its friendly citizens.

The general performance of the Congress was sponsored by a number of Russian industrial enterprises and supported by the local administration, as well as personally by the Governor of the Ural region, Mr. E.V. Kuyvashev, who co-chaired the Organizing Committee together with Mr. A.V. Dvorkovich (Vice-chairman of the Government of the Russian Federation) and Academician V.E. Fortov (President of the Russian Academy of Sciences). The local Organizing Committee was co-chaired by Academician V.N. Charushin (Vice-President of RAS, Chair of the Ural Branch of RAS), Mr. D.V. Pasler (Chairman of the Regional Government), Mr. V.A. Koksharov (Rector of the Ural Federal University), and Mr. D.A. Pumpyanskiy (Chairman of the Board of Regional Union of Industrialists and Entrepreneurs).

At the conclusion of the Conference, it was announced that the XXIst Mendeleev Congress will be held in 2019 in Saint-Petersburg. It will be dedicated to the 150th anniversary of the discovery of Mendeleev Periodic law and, equally, to the jubilee of the Russian Chemical Society. It has also been decided to ask UNESCO to endorse 2019 as an International Year of the Periodic Table of Chemical Elements.

As the chair of the “Organic Synthesis” Sub-committee of IUPAC Division (III) of Organic and Biomolecular Chemistry, I am honored to dedicate this issue of *Pure and Applied Chemistry* to the XXth Mendeleev Congress. It comprises selected papers related to plenary contributions, as well as keynote and invited lectures presented at the XXth Mendeleev Congress.

I am very grateful to Professor Hugh Burrows, editor in Chief of *Pure and Applied Chemistry* for his kind consent to dedicate this issue to the XXth Mendeleev Congress, and all authors for their contributions which demonstrate advanced fundamental level of modern chemical sciences and its indispensable importance for mankind and sustainable development.



Nikolay E. Nifantiev

The Corresponding Member of RAS,
IUPAC Titular Member,
Chair of IUPAC Division III “Organic Synthesis”
Sub-committee (2016–2018),
Head of the Laboratory of Glycoconjugate Chemistry,
N. D. Zelinsky Institute of Organic Chemistry,
Russian Academy of Sciences, Leninsky, Prospect 47,
119991 Moscow, Russian Federation
nen@ioc.ac.ru