

# Russia and IUPAC

**Long-before the Cold War thawed, the Soviet Union was an integral part of IUPAC. Today, the Russian Academy of Sciences helps to advance IUPAC ideas and principles throughout Russia's chemistry community. C/ asked a Russian member, Petr Fedotov, to briefly review the history of the Academy, its National Committee of Russian Chemists, and examples of recent IUPAC–Russia projects.**

*by Petr Fedotov*

For over 70 years Russia and the Soviet Union have participated in IUPAC activities. The relationship formally began in 1931 when the Academy of Sciences of the Soviet Union became a National Adhering Organization in IUPAC. Since that time, three Russian academicians have served as president of IUPAC: V. N. Kondratiev, 1967–1969; V. A. Koptug, 1987–1989; and K. I. Zamaraev, 1993–1995. In addition, Russian titular and associate members have actively worked in all IUPAC divisions. For example, V. A. Kabanov was president of the Macromolecular Division from 1979–1981, K. I. Zamaraev was president of the Physical Chemistry Division from 1987–1989, and I. P. Beletskaya was president of the Organic Chemistry Division from 1991–1993. For many years F. A. Kuznetsov has been actively participating in the activities of CHEMRAWN (Chemical Research Applied to World Needs) Committee and at present O. M. Nefedov is an elected member of the IUPAC Bureau, Executive Committee of IUPAC Bureau, and Evaluation Committee.

It would be useful to describe the history of the Russian Academy of Sciences itself. It was founded in 1724 in St. Petersburg according to Peter the Great's order and by the decree of the Governing Senate. In 1889, the Academy was one of the constitutors of the International Union of Academies, the prototype of the International Research Council (1919–1931), which later became ICSU, the International Council of Scientific Unions (1931–1998) and is now the International Council for Science. The Academy was continuously developed in the Russian Federation after 1917 and in the Soviet Union after 1924. The Soviet government in its decree of 1925 recognized the Academy as "highest all-Union scientific institution," gave it a new name (the USSR Academy of Sciences), and integrated it into the Academies of Soviet Republics. In 1991, in connection

with the disintegration of the Soviet Union, the Academy changed its status and received the initial name of the Russian Academy of Sciences. At present the Academy incorporates 366 research institutions all over Russia engaged in the study of basic fields of modern science. These research institutions and laboratories accumulate the best scientific potential, world-famous scholars, and gifted youth. Nine Professional Divisions of the Academy (including the Division of Chemistry and Material Sciences) feature the scientific and organizational centers that unify the Academy members occupied in one and the same of adjacent fields of science, as well as the associates of Institutes and other scientific and auxiliary bodies of the Academy. Three Regional Branches (Siberian, Ural, and Far East Branches), embracing a number of Regional Scientific Centers, are also incorporated in the Russian Academy of Sciences.



*K. I. Zamaraev,  
President of IUPAC from  
1993–1995*

The National Committee of Russian Chemists (O. M. Nefedov, chairman; B. F. Myasoedov, vice chairman) is responsible for relations between IUPAC and the Russian Academy of Sciences. However, the National Committee incorporates leading chemists not only from the Academy, but from industry and universities as well, which helps to advance IUPAC ideas in all of Russia's chemistry communities. The National Committee is working on the IUPAC Affiliate Program in Russia, which favors a national infra-

structure for IUPAC and assists in sounding out national opinion on IUPAC matters. Such an infrastructure also may be useful for setting up IUPAC congresses or sponsored symposia.

The National Committee has helped organize a series of IUPAC-sponsored conferences in Russian scientific centers, including the "International Memorial K. I. Zamaraev Conference on Physical Methods for Catalytic Research at the Molecular Level," 1999, Novosibirsk, and "Horizons for Organic and Metalloorganic Chemistry," 1999, Moscow. The committee, with financial support from the German Chemical Society, also promoted the participation of young Russian scientists in the 37th IUPAC Congress in Berlin in 1999. Of special note is an international conference on Chemical Research Applied to World Needs, entitled "Chemistry and Sustainable Development Toward Clean Environment, Zero Waste,

and Highest Energy Efficiency" (CHEMRAWN VIII), which was organized by V. A. Koptuyug and O. M. Nefedov and held in September 1992 in Moscow. V. A. Koptuyug also contributed to a broadened participation of Soviet and Russian scientists (e.g., from the Siberian Branch of the Academy) in the activities of IUPAC divisions and commissions.

Also in the 90s, the Academy participated in the preparation of the IUPAC book series "Chemistry for the 21st Century." K. I. Zamaraev was the first chairman of the Editorial Advisory Board, whereas I. P. Beletskaya was a Board member. Members of the National Committee also encourage the submission of scientific and educational projects to IUPAC. Furthermore, B. F. Myasoedov, I. P. Beletskaya, and S. D. Varfolomeev were representatives of the Russian NAO at the recent "Chemical Weapons Workshop" (Norway, July 2002—see p. 17 for a report on this IUPAC project).

Great national forums on chemistry (Mendeleev Congresses) are organized in Russia every four to five years. The first congress after the disintegration on the Soviet Union (XV Mendeleev Congress on General and Applied Chemistry) was held in Byelorussia (Minsk, May 1993) under the active support of the Academy of Sciences of Byelorussia. Mendeleev Federation of Chemical Societies of Commonwealth of Independent States (CIS) was founded at that congress. Professor J. Jortner (IUPAC president from 1998–1999) and Dr. A. Hayes (IUPAC president from 2000–2001) were participants in the XVI Mendeleev Congress in 1998. The next Mendeleev Congress, which is IUPAC sponsored, will be held in Kazan in September 2003 (see announcement p. 28). Professor P. Steyn (IUPAC president), Professor L. Sydnes (IUPAC vice president), and Professor H. Ohtaki (member of the IUPAC Bureau and its Executive Committee), as well as a number of Nobel Prize winners have already decided to participate. A roundtable discussion on the "State and Development of Chemical Science in the Former Soviet Union Countries" is being planned with the participation of presidents of chemical societies from CIS, Baltia, and leading countries of Europe, Asia, and America.

It should be noted that the Russian Academy is now placing particular emphasis on cooperation with scientific institutions of the CIS and Baltia. The Academy is also pursuing participation in the activities of the International Association of Academies of Sciences (IAAS), thereby combining efforts of the National Academies of the Republics of Azerbaijan, Armenia,

Byelorussia, Vietnam, Georgia, Kirghizia, Moldavia, Russia, Tajikistan, Turkmenistan, Uzbekistan, and Ukraine. B.E. Paton, president of the Ukrainian Academy of Sciences, is the president of IAAS, and also a full member of the Russian Academy of Sciences. IAAS organizes annual meetings for presidents of National Academies. As the result of an initiative of IAAS, the heads of government of CIS member states signed an agreement to cooperate on scientific and technological projects.

Traditionally, the USSR Academy of Sciences was the publisher of All-Union scientific chemical journals. All these journals are now published in Russia. Nevertheless, research papers of scientists from the CIS and Baltia are widely printed in Russia. Furthermore, new journals that encourage international scientific cooperation are appearing. A journal named *Mendeleev Communications* was founded in 1991 by the Russian Academy of Sciences and the Royal Society of Chemistry. Preliminary accounts of new work in chemistry from Russia and elsewhere are printed in this journal.

Before 1991 (disintegration of the Soviet Union), the practical realization of most important scientific ideas occurred within programs receiving All-Union financial support. At present, science in republics of the former Soviet Union experience financial, personnel, material, and technical difficulties. Nevertheless, Russia continues to exhibit the most activity in the scientific-technical sphere. Hence, Russia should direct more effort to integrating and coordinating the scientific communities and organizations of "Post-Soviet" areas in order to support common objectives.

All of what is mentioned above is very important, considering that among republics of the former Soviet Union, only Russia has full membership in IUPAC. In such a way, the National Committee of Russian Chemists has a unique opportunity to promote the dissemination of IUPAC ideas and principles within all "Post-Soviet" areas. Additionally, the National Committee may involve leading chemists from these republics in IUPAC activities. 

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