

Dear Friends,

The Periodic Table of Chemical Elements is, perhaps, one of the most familiar attributes of schools throughout the world. The table appeared 150 years ago as a brainchild of the Russian chemist Dmitri Mendeleev, who printed its first version on February 17, 1869, and circulated it among his colleagues in Russia and abroad.

The UN General Assembly declared the year 2019 as the International Year of the Periodic Table of Chemical Elements to commemorate the contribution of our great chemist. Mendeleev not only noticed—many other researchers did too—that all the chemical elements stand in a certain order; he discovered the law of periodicity itself, which predicts the properties of new, yet unknown elements from their position in the table.

The scope and diversity of Mendeleev's interests are truly impressive. He concerned himself with metrology, soil science, agriculture, and even economics—from customs tariffs to the prospects of oil industry. He believed that "being a chemist does not necessarily mean shying oneself away from plants and factories."

The scholar's well-known words, "Broadly chemistry reaches forth its arms in human affairs," can serve as an epigraph for the chemistry of the 21st century. Valery Fokin, an American professor, a Nobel Prize nominee of 2018, a head of laboratory under the megagrant program, and a graduate of Nizhny Novgorod University, said about the role of chemistry in modern science, "Chemistry is omnipresent. An independent field of science, it interacts very smoothly with most scientific disciplines that nobody ever thought to be verge upon it. 'Molecular' sciences, primarily chemistry and physics, are in fact the driving force behind all the processes that occur in biology, materials science, and other fields, even in the humanities and digital technologies."

One can hardly overestimate the role of chemistry in the development of modern medicine. This is the focus of the article based on the proceedings of the 3rd International Conference "Science of the Future" (May 2019, Sochi), which brought together leading scientists of Russian origin, who are heads of laboratories established under the presidential megagrant program. Thus, the works of the team led by Igor Roninson, a professor at the University of South Carolina (USA), a US scientist of Russian origin, enabled the discovery



of small molecules that interfere with the development of drug resistance and metastases in cancerous tumors. To this end, the researchers analyzed hundreds of thousands of different chemical compounds. These inhibitor molecules, which suppress transcriptional reprogramming of cancer cells, are easy to synthesize. Clinical trials of these promising drugs are carried out in close collaboration with the Russian company Biocad (St. Petersburg).

Finally, the reader will gain an unforgettable experience from the "travel notes" of Novosibirsk historians, who made, in the course of their research projects, an extensive tour around China, a multinational and ancient country. The scholars' observant eyes allow the reader to feel the pulse of the Celestial Empire's "rich heritage of cultural layers" in the curving paths of ancient parks and in the armored glasses of VIP skyscrapers, in the exhibitions of huge museum halls and in the entire booming economy of this country, which is rapidly turning into a leading world power. The country that has become a live embodiment of the well-known words by Confucius, "Give a man a fish, and you will feed him for a day. Teach a man to fish, and you have fed him for a lifetime."

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