

Results of the contest, results of the year!

In 2019, INEOS OPEN CUP was a great success, as usual, despite rescheduling due to numerous events commemorating a parade of anniversaries. We had to postpone the contest to the middle of December, and it turned out to be a good decision. However, our foreign speakers, who had been invited in advance, were not able to come—this was almost the dead pre-Christmas season. We had to mobilize our domestic resources and they did not disappoint. The plenary lectures of Dr. Denis A. Chusov and Prof. Petr V. Prikhodchenko sounded fresh and tempting. The report of Prof. Prikhodchenko raised many questions: simple oxidizing systems elegantly implemented in laboratory practice really resonated with the audience. Special mention should be made of the lecture of Prof. Rufat Sh. Abiev who represented a famous school of St. Petersburg State Institute of Technology. We got used to the fact that all technological solutions in chemistry are imported in the ready form, which emphasizes the lack of advanced technological approaches, especially in the field of modern equipment. In this context, the report of Prof. Abiev, made at the high scientific level, was very encouraging, with many examples of fresh technological solutions supported by new design of conventional units, which acquired new functioning principles and quite different dimensions. The high performance at the reduced specific amount of metal, unit dimensions, and energy consumption, in other words, the high ecological compatibility of chemical technologies are the main objectives of a young successor of one of the most famous soviet technological schools.

The contest winners appeared to be good matches for the invited speakers. Mikhail A. Kinzhalov represented a school of the full member of the Russian Academy of Sciences and the member of our Advisory Board Vadim Yu. Kukushkin. An incentive prize of the previous contest only whetted this young scientist. He painstakingly analyzed the reasons for his failure, essentially updated his presentation with new results, and gained unconditional recognition of the jury. The path of Igor V. Elmanovich between the previous and current contests was also fraught with obstacles. This time he presented a whole new report on the synthesis of nanoparticles, thus, showing the diversity of his favorite medium—supercritical CO₂. The second representative of the school of Prof. Kukushkin, Dmitrii S. Bolotin, unexpectedly won a prize in the applied section, firstly, owing to the great lecturing skills and high-level publications (a hallmark of this scientific school) and, secondly, due to the lack of peer competitors. This is the cost of our contest: despite the unique evaluation system, the jury members choose the best work *hic et nunc*, the best work among those presented by the participants. This is

not to offend the winner, but the applied character of his work strongly differed from that of the section leader, Prof. Abiev.

At the same time, the Grand Prix took a good aim. A young postdoc researcher, Svetlana A. Sorokina, presented a complex multidisciplinary work. The jury chair, the full member of the Russian Academy of Sciences and one more member of our Advisory Board Victor I. Ovcharenko, did not hesitate and awarded her the main prize—the Nesmeyanov prize. We were particularly pleased to congratulate the winner as one of our authors; the highlight coauthored by Svetlana ranks among top five downloaded reviews of INEOS OPEN.

Noteworthy, the organizers introduced this option into the regulations for jury this year: the Chair had an opportunity to choose an absolute winner among the contest winners at its own discretion. Hence, the contest organizers compensated for the lack of authoritative powers of the jury Chair and, simultaneously, retained the sporting character of the contest stock taking. We called this option "a cherry on top", since it galvanized life into the boring evaluation procedure and introduced an emotional component into the strict mathematical calculations of the jury.

Let me add a few words about the results of the year. The year of the 150th anniversary of the Dmitri Mendeleev Periodic Table appeared to be a good time to remind about the state of chemistry in our country and worldwide. Many comparisons were made during the 21st Mendeleev Congress on General and Applied Chemistry. The positive reports on recent advances in some fields of chemistry were permeated with serious concerns about considerable backlogs in a number of important trends. These concerns were reflected clearly in the final Congress resolution. The highest concerns were expressed by the experts in the field of materials science. However, the other specialists, ranging from analytical chemists to the experts in catalysis, also join them.

This was described shortly and comprehensively by the full member of the Russian Academy of Sciences, an Academician-secretary (Head) of the Department of Chemistry and Materials Sciences of RAS, Mikhail P. Egorov at the closing session of a general congress of the Russian Academy of Sciences devoted to the anniversary of the Dmitri Mendeleev Periodic Table. During five minutes, he explained that a significant contribution made by the chemization program under guidance of the outstanding expert Leonid A. Kostandov have exhausted itself. The past flagships—the powerful chemical facilities in different parts of the country—became environmental disasters in hands of miserable managers. The

current flagships are good for getting foreign currency but have nothing common with the reemergence of a chemical complex.

This bitter aftertaste in no way diminished the achievements of our scientists. In contrast, it made hear their voices: the chemical complex of the country requires urgent reforming and rapid high-priority development based on new environmentally benign technologies, which creation requires our serious efforts. The Department of Chemistry and Materials Sciences of RAS is fully conscious with the necessity of strengthening the role of chemistry in interagency committees, which work on the Strategy for Scientific and Technological Development of the Russian Federation. For this purpose, the Department intends to organize a special board that will include the representatives of different scientific councils. The board members will determine the main strategic objectives and challenges that require prompt solutions. These are our immediate plans. Hence, it may be considered that we well spent this year of chemistry with great enthusiasm, if it becomes a starting point for the reconstruction of the modern and environmentally compatible chemical complex of the country.

Sincerely yours,
Editor-in-Chief
Prof., Full Member of RAS
Aziz M. Muzafarov