XI International Conference “Mechanisms of Catalytic Reactions”

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The 11th International Conference “Mechanisms of Catalytic Reactions” (*MCR-XI*), organized by the Boreskov Institute of Catalysis, Novosibirsk, under the auspices of the European Federation of Catalysis Societies (EFCATS), took place in Sochi, Russian Federation, from October 7 to 11, 2019. This Conference was 11th in the series, with previous meetings held in Russia in 1974, 1979, 1982, 1986, 1990, 2002, 2006, 2009, 2012, and 2016. Traditionally, conferences of this series focus on advances in understanding the mechanisms of chemical reactions occurring in the presence of catalysts, ranging from homogeneous molecular catalysts (inorganic, organic, or metal complex based) to heterogeneous catalysts. The program of *MCR-XI* included the following sections:

- (1) Basic concepts, theory and modeling in catalysis,
- (2) Physical methods, including in situ and operando techniques, in catalysis,
- (3) Kinetics and mechanisms of catalyzed processes,
- (4) Advanced catalyst systems addressing current challenges: energy, materials, sustainability.

There was a satellite meeting, School-Conference for young scientists “Catalysis for energy, fuels, and

renewables”. The conference hosted 246 participants from 15 countries across the globe, working in all fields of catalysis, who contributed 104 posters, 70 oral presentations, 5 keynotes and 5 plenary lectures, as well as a commemorative plenary lecture in memory of the pre-eminent Russian physical chemist, Professor Kirill I. Zamaraev (1939–1996).

This Special Issue contains selected contributions from the participants, representing the main topics of the Conference. The Guest Editors thank the authors for submitting their high-quality manuscripts, and the reviewers for their time and efforts, and constructive criticism. We are also grateful to Prof. Hajo Freund, Editor-in-Chief of *Topics in Catalysis*, and appreciate the support from the Springer Nature editorial team. Last but not least, on behalf of the Organizing Committee we cordially thank all the participants of *MCR-XI* for coming to Sochi and contributing to the success of the Conference. We look forward to meeting them again at further events of this series.

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