Preface to the Special Issue 11th International Congress on Catalysis and Automotive Pollution Control (CAPoC11)

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This special issue of *Topics in Catalysis* gathers the proceedings of the 11th International Congress on Catalysis and Automotive Pollution Control (CAPoC11) held at the Université Libre de Bruxelles from October 29th to 31st 2018. Since the first edition in 1986, automotive pollution control by catalysis has rapidly developed to become one of the most active and popular areas of applied research in heterogeneous catalysis. More recently, after the disclosure of illegal practices with “defeat devices”, the abatement of automotive pollutants is of topmost importance for current and future generations of scientists and engineers in both academia and industry. This was demonstrated clearly in view of the 220 participants from 31 countries gathering in Brussels during CAPoC11. The nearly balanced attendance of academia and industry was the guarantee for many fruitful discussions about issues of fundamental and applied character. It is the organizers’ firm conviction that the synergetic interaction of its attending protagonists is key to the success of CAPoC meetings and, more generally, to the improvement of catalysis-based technology for emission control.

As did its ten predecessors, CAPoC11 was demonstrated to be an efficient platform to discuss recent scientific and technological advances in different topics related to applications and requirements of catalysis in duty automotive emission control, especially the following topics:

- Catalyst and sorption technologies;
- Particulate emission control for both diesel and gasoline engines;

- After treatment for gaseous HC, H₂ and renewable or reformulated fuel mixtures;
- Emission control for natural-gas, dual-fuel engines and hybrid vehicles;
- Off-cycles emissions and unregulated pollutants;
- Materials for catalysts, washcoat and fuel-borne catalysts;
- Modelling of after treatment systems and catalyst characterization;
- Integrated emission control systems, on-board diagnostics;
- Sustainable fuel technologies;
- Innovative technologies (new materials, recovery of precious metals).

The conference counted 130 contributions: 4 invited lectures, 6 keynote lectures, 19 oral presentations and 101 poster presentations spread over 6 poster sessions and 3 ‘discussion of posters’ sessions, a unique feature of the CAPoC during which many of the posters were subject to short oral pleading. As it is a tradition in the CAPoC series, the congress began with four invited introductory lectures discussing the recent advances in automotive emission standards (P. Dilara from the European Commission, BE) and the SCR after-treatment technology (K. Kamasamudram from Cummins, US). In addition, the performance of particle filters (A. Dittler from Karlsruhe Institute of Technology, DE), and the sustainability of metals supply and recycling contributions (C. Hagelueken from Umicore AG & Co, KG, BE) were also discussed. We warmly thank these four leading experts for their illuminating presentations with regard to the present and future automobile pollution control.

The present issue contains 53 papers covering all subject topics of the congress, without differentiation between oral and poster contributions.

The guest editors are indebted to the members of the organizing committee and the advisory board. Their expertise was of invaluable help in providing the right format to

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the conference, in selecting the most relevant topics, and in selecting the submitted contributions. The guest editors also address their sincere thanks to the more than 125 peer reviewers whose expertise and rigor guaranteed these proceedings to come up to the highest scientific expectations.

The success of this congress and the continuing efforts in finding catalysis-based technological solutions to meet future legislative regulations for emissions from non-stationary sources will provide the incentive to organize the 12th edition of CAPoC in 2021.

Special thanks are due to all co-workers, members, former members and friends of the *Chemical Physics of Materials and Catalysis* Laboratory of the Université Libre de Bruxelles for helping to run the CAPoC11 meeting efficiently and successfully: Mrs. Aline Desantoine, Mrs. Natalia Gilis, Mrs. Judith Ghistelinck., Mr. Luc Jacobs and Dr. Eric Genty. A very special acknowledgement goes to Mr. Olivier Croquet, congress manager, webmaster and treasurer, who also handled so many of the visible and invisible facets of the organization of the conference.

Our thoughts are also with Mr. Jean-Marie Bastin, former secretary of CAPoC3 to CAPoC9. It was with profound

sadness that we learned about the passing away of Jean-Marie during spring 2018. Active since CAPoC1, Jean-Marie also advanced to become the meeting's treasurer for more than 10 years. His utmost concern was always to help provide a warm and familiar atmosphere during these conferences, never neglecting a detail to ensure a pleasant experience, freed from worries, for each participant. Thank you, Jean-Marie, for leaving this precious legacy, which has always made CAPoC a well-appreciated event.

Brussels, January 28th, 2019

Thierry Visart de Bocarmé (Executive Chairman)

Norbert Kruse (Honorary Chairman)

Cédric Barroo (Guest Editor)

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