



Catalysis and Nanomaterials for Sustainable Energy, Environment, and Industry: Special Issue for World Chemistry Forum 2019, Barcelona, Spain

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Published online: 5 October 2020

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World Chemistry Forum 2019 was held on May 22–24 in Barcelona, Spain, focusing on three directions of analytical chemistry, nano-science, and catalysis. Prof. Gabor A. Somorjai from University of California, Berkeley, Prof. Francesc Illas from University of Barcelona, and Prof. Michael Stockenhuber from University of Newcastle served as the Forum Honorary Chairmen. Ms. Johanna Lee from International Science and Technology Conference Institute (ISTCI) served in the Organizing Committee of World Chemistry Forum (WCF). The forum had *ca.* 85% participants from academia and *ca.* 15% participants from industry. Among all the important and cutting-edge topics discussed at the Forum, catalysis and nanomaterials were highly emphasized for the sustainable energy, environment, and industry applications. Therefore, we decided to collect contributions from the WCF-2019 participants as well as other researchers working on catalysis and nanomaterials and form a special issue to cover a broad spectrum of topics addressing some key problems in these critical areas.

Within this special issue, the most recent research advances in low-temperature Fischer–Tropsch synthesis, reduction of air pollutants on carbons, catalytic valorization of biomass-derived platform molecules, photocatalysis for indoor and outdoor pollutant removal on TiO₂-based coatings, as well as photocatalytic production of hydrogen

peroxide have been systematically reviewed. The dedicated research progress on catalytic hydrodeoxygenation, catalytic dehydrogenation, room temperature formaldehyde oxidation, reaction mechanism study for oxygen evolution reaction, new material development for photocatalytic oxidation, and catalytic control of nitrogen oxides at low temperatures have been included herein. The Guest Editors sincerely thank the authors for submitting their high-quality work to this special issue, especially during this COVID-19 pandemic which indeed influenced and slowed down everything. The great help and detailed comments from many reviewers are highly appreciated. We are also very thankful to the generous support from Springer Nature editorial team during the whole publication process.

We believe that the World Chemistry Forum 2019 provided an excellent platform for chemistry researchers worldwide to gather together and share their most advanced research progress, fostering the information exchange and extensive collaboration on important chemistry topics. The contents regarding to catalysis and nanomaterials covered in this special issue are highly interdisciplinary, which can provide some useful information on new collaboration mode in solving the complicated energy-environment-industry problems. We look forward to seeing more fruitful results within these areas in next World Chemistry Forum, especially from the young generation researchers.

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