

Preface

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Seven score and 10 years ago, a well-known nineteenth century German philosopher defined commodity as an external object, a thing whose qualities enable it, in one way or another, to satisfy human wants. Besides, the wealth of societies in which the capitalist method of production prevails, takes the form of an immense accumulation of commodities. During a long time, it was very clear which characteristics of an object satisfied human wants. But during last years, a new and *sine qua non* characteristic is beginning to be incorporated to the features of an object to be considered a commodity: the sustainability, defined as the endurance of systems and processes. An object can be considered sustainable if it can be produced in the same way as long as our solar system remain stable (e.g., before our sun reaches the state of a red giant), without a substantial modification of the physicochemical specifications of our planet. We are just at the beginning of this process of re-definition of commodities, but it is sure that during the next years we will reach this stage where a non-sustainable object won't satisfy human wants. Therefore, it won't be considered a commodity.

With this philosophy, we have organised the 3rd edition of the International Symposium of Catalysis for Clean Energy and Sustainable Chemistry (CCESC2016) in Madrid (Spain), as an encounter between scientists and industrialists worldwide with interest in the technological aspects of application of catalysis to the sustainable development. The spirit was to review the present state of the art of these technologies and to discuss the possible future directions of evolution, and of course, how they can revert positively in the development of the society. Three different topics were discussed during the congress: Catalytic Technologies for the Production of Bioproducts and Biofuels, Catalysis for Sustainable Chemistry and Environmental Protection, and Hydrogen: Production, Storage and Uses. 135 scientists from 28 countries attended to the symposium with 33 oral presentations and 98 poster presentations. Besides, three plenary lectures, by Professors Hans Niemantsverdriet, Xenophon E. Verykios, and Karen Wilson, and three Keynotes presentations, by Drs. Elias Frei, Patricia Hernández-Fernández, and Irantzu Sádaba, completed the scientific program of the congress.

As recognition to the young scientists, two poster prizes sponsored by RSC Materials Frontiers was awarded to Ms. Ingrid Jansson, and Ms. Sara García Fernández.

The present special issue of Topics in Catalysis includes a selection of the works presented, trying to be a representation of the different topics discussed, and the institutions and companies attending the conference. The collection included in the present issue is not exhaustive, but reflects the most relevant aspects on the state of the art, and the excellent perspectives in the topics of the congress.

We would like to thank the participation of the Spanish Hydrogen Association in the organization of the congress, as well as to the collaboration of the SusChem Platform and the media partners: Open Chemistry, Materials Chemistry

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and Topics in Catalysis. We would like also to thank to our sponsors: Nature Energy (Gold), and PID Tech&Eng and SPECS (Silver). These last two companies were also present with commercial stands during the congress.

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