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Nanotechnology in Catalysis

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Message from the Guest Editor

The evolution of catalysis is associated to the development of nanoscience and nanotechnology, which has the potential to design, synthesize and control the catalysts at nanometer and sub-nanometer length scale. The enormous efficiency of these nanocatalysts has to do with a) the increasing surface-to-volume ratio with decreasing particle size, as well as b) with quantum confinement effects, which can influence the chemical features of sufficiently small particles. Other atomic characteristics such as the chemical composition will be also critical to achieve a benefit at the level of catalytic activity and selectivity.

Taking into account that synthetic heterogeneous catalysts are the basis of industrial chemistry, this issue will collect fundamental research in heterogeneous catalysis.