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Autore	Santacesaria Elio
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Sommario/riassunto	Nowadays, the impressive progress of commercially available computers allows us to solve complicated mathematical problems in many scientific and technical fields. This revolution has reinvigorated all aspects of chemical engineering science. More sophisticated approaches to catalysis, kinetics, reactor design, and simulation have been developed thanks to the powerful calculation methods that have recently become available. It is well known that many chemical reactions are of great interest for industrial processes and must be conducted on a large scale in order to obtain needed information in thermodynamics, kinetics, and transport phenomena related to mass, energy, and momentum. For a reliable industrial-scale reactor design, all of this information must be employed in appropriate equations and mathematical models that allow for accurate and reliable simulations for scaling up purposes. The aim of this proposed Special Issue was to collect worldwide contributions from experts in the field of industrial reactor design based on kinetic and mass transfer studies. The following areas/sections were covered by the call for original papers: Kinetic studies on complex reaction schemes (multiphase systems); Kinetics and mass transfer in multifunctional reactors; Reactions in mass transfer-dominated regimes (fluid–solid and intraparticle diffusive limitations); Kinetic and mass transfer modeling using alternative approaches (ex. stochastic modeling); Simulations in pilot plants and industrial-sized reactors and scale-up studies based on

kinetic studies (lab-to-plant approach).