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Editorial

Commemorative Issue in Honor of Professor Gerhard Ertl on the Occasion of His 85th Birthday

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This Special Issue (SI) is dedicated to Professor Gerhard Ertl on his eighty-fifth birthday. Professor Ertl is a Professor Emeritus at the Fritz-Haber-Institut der Max-Planck-Gesellschaft (Berlin, Germany). He won the Nobel Prize in Chemistry in 2007 for his work on the fundamental understanding of heterogeneously catalyzed reactions. According to the Royal Swedish Academy of Sciences, Professor Ertl's research laid the groundwork for the current understanding of the chemistry of surfaces that has helped, for example, in understanding how ammonia is synthesized and how fuel cells generate energy.

This SI includes articles focused on materials with potential applications as cathodes for solid oxide fuel cells [1] and water oxidation [2]. Moreover, environmental applications of heterogeneous catalysts, such as simultaneously producing hydrogen and removing pollutants [3], as well as work on other industrially relevant heterogeneous reactions [4–6], are published in this Special Issue.

This SI is composed of experimental work as well as several theoretical studies primarily concerned with density functional theory applications in heterogeneous catalysis [7,8]. Moreover, two review articles on the fundamental role of shape engineering in catalysis [9], as well as on using catalysts based on Pt for dehydrogenating propane [10], are also published.

In honor and acknowledgment of Prof. Gerhard Ertl's remarkable impact on the field of heterogeneous catalysis, this SI is a collection of articles on emerging areas with significant impact and broad applicability. We thank Professor Ertl for his fantastic contributions to surface chemistry.

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