

*Special Issue Reprint*

## Plasma Catalysis

[www.mdpi.com/books/reprint/1200](http://www.mdpi.com/books/reprint/1200)

Edited by  
Annemie Bogaerts

ISBN 978-3-03897-750-6 (Softback)  
ISBN 978-3-03897-751-3 (PDF)



Plasma catalysis is gaining increasing interest for various gas conversion applications, such as CO<sub>2</sub> conversion into value-added chemicals and fuels, N<sub>2</sub> fixation for the synthesis of NH<sub>3</sub> or NO<sub>x</sub>, methane conversion into higher hydrocarbons or oxygenates. It is also widely used for air pollution control (e.g., VOC remediation). Plasma catalysis allows thermodynamically difficult reactions to proceed at ambient pressure and temperature, due to activation of the gas molecules by energetic electrons created in the plasma. However, plasma is very reactive but not selective, and thus a catalyst is needed to improve the selectivity.

In spite of the growing interest in plasma catalysis, the underlying mechanisms of the (possible) synergy between plasma and catalyst are not yet fully understood. Indeed, plasma catalysis is quite complicated, as the plasma will affect the catalyst and vice versa. Moreover, due to the reactive plasma environment, the most suitable catalysts will probably be different from thermal catalysts. More research is needed to better understand the plasma-catalyst interactions, in order to further improve the applications.

MDPI Books offers quality open access book publishing to promote the exchange of ideas and knowledge in a globalized world. MDPI Books encompasses all the benefits of open access – high availability and visibility, as well as wide and rapid dissemination. With MDPI Books, you can complement the digital version of your work with a high quality printed counterpart.



## Open Access

Your scholarly work is accessible worldwide without any restrictions. All authors retain the copyright for their work distributed under the terms of the Creative Commons Attribution License.



## Author Focus

Authors and editors profit from MDPI's over two decades of experience in open access publishing, our customized personal support throughout the entire publication process, and competitive processing charges as well as unique contributor discounts on book purchases.



## High Quality & Rapid Publication

MDPI ensures a thorough review for all published items and provides a fast publication procedure. State-of-the-art research and time-sensitive topics are released with a minimum amount of delay.



## High Visibility

Due to our global network and well-known channel partners, we ensure maximum visibility and broad dissemination. Title information of books is sent to international indexing databases and archives, such as the Directory of Open Access Books (DOAB), and the Verzeichnis Lieferbarer Bücher (VLB).



## Print on Demand and Multiple Formats

MDPI Books are available for purchase and to read online at any time. Our print-on-demand service offers a sustainable, cost-effective and fast way to publish MDPI Books printed versions.