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# Plasma Oxidation and Reduction of Nitrogen: Towards Electrification of Nitrogen Fixation

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**closed (31 May 2021)**

## Message from the Guest Editor

The naturally occurring $N_2$ fixation is becoming negligible compared to the ever-growing global demand, while the chemical production of $NH_3$ alone reaches hundreds of millions of tonnes, predominantly by the Haber-Bosch process, which relies heavily on fossil-derived energy and massively contributes to the total global $CO_2$ emissions. Naturally, new, more benign routes of $N_2$ fixation are under investigation. Among these are the processes involving plasma. This vast interest in plasma-assisted and plasma-driven methods is due to their operation under benign conditions, which complies with the desired electrification of chemical industry, leading towards a more sustainable future.

We are honoured to announce this Special Issue of *Applied Sciences*. We cordially invite authors to contribute their works, which we expect to be focussed on all aspects of $N_2$ fixation by plasma, including experimental and computational research in areas of plasma chemistry, physics, biomedicine, catalysis, diagnostics, etc.

## Keywords

- Nitrogen fixation
- Plasma chemistry
- Plasma catalysis
- Plasma physics
- Plasma diagnostics
- Ammonia
- Nitrogen oxides

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## Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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