

Tentative Outline

Special Thematic Issue for the journal: Current Chinese Science (Field-Environmental Science)

Title of the Thematic Issue: Advanced oxidation technology for water and wastewater treatment
Sectional Editor: Kinjal J. Shah

• **Scope of the Thematic Issue:**

Advances in water and wastewater treatment are essential to the purification of industrial and municipal wastewater through reuse and recycling technology. It shows that 30-50% of industrial wastewater worldwide is either poorly treated or untreated or reused, depending on the industry that adversely affects the ecosystem and the environment. These statistics show the importance of water and the need for its treatment technologies for the coming decades. In addition, the enormous demand for clean water is increasing rapidly due to population growth. Advanced oxidation processes can play an important role in this. In addition, process integration is usually required to meet increasingly stringent environmental laws. This means that advanced oxidation processes can be integrated into traditional processes. The goal is always to find the best treatment solution at the lowest cost. An important issue is the potential impact of treated wastewater on ecosystems and human health. Therefore, the optimization procedures must take into account the evolution of the toxicological properties of the wastewater during treatment. The aim of this thematic issue is to collect innovative contributions within this issue that deal with the application of advanced oxidation processes for water and wastewater treatment. Research on emerging pollutants and the removal of pathogens from wastewater is also welcome. This factor should ultimately lead to wastewater treatment achieving the Sustainable Development Goals, which aim to protect the environment and the ecology of our next generation.

Keywords: Advance oxidation, wastewater treatment, photocatalysis, pollution removal, degradation

Sub-topics:

The sub-topics to be covered:

- Fenton oxidation technology
- Ozone oxidation and ozone catalytic oxidation technology
- Electrocatalytic oxidation
- Wet oxidation technology
- Supercritical water oxidation technology
- Photocatalytic oxidation technology
- Ultrasonic oxidation technology
- Ferrate oxidation technology

Tentative titles of the articles:

1. Application of zinc nanoparticles in wastewater treatment and development of antimicrobial resistivity.
2. Application of cationic flocculant for photocatalytic application – review.
3. Recent advancement of TiO₂ in green photocatalytic synthesis and applications.
4. Applicability of CeO₂ particle for photocatalytic degradation of pesticides.
5. TBD

Schedule:

✧ Thematic issue submission deadline: 31/12/2023

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