



Nanostructured Catalysts for Emission Control

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Presentation Preference: Oral

Career Level: Career Scientist (>5 yrs post PhD)

Aligned with Science Focus: general catalysed processes

Abstract:

Managing human impact on the environment is now recognised as being essential to healthy and sustainable economies. With this recognition, regulatory restrictions on industrial discharges are becoming more restrictive. Environmental catalysis is currently playing a major role in improving our atmosphere and reducing pollution and is expected to be a key technology for the removal and treatment of undesirable pollutants. Our research mainly focuses on developing nanostructured environmental catalysts for industrial emission control. This includes: 1) development of a scalable catalytic deodorisation process to improve air quality and reduce health hazard by destruction of odour substances derived from reduced sulphur compounds and volatile organic compounds (VOC) presented in various industrial gases. 2) Development of N₂O abatement catalysts for nitric acid plants with the aim to remove N₂O from industrial tail gases and consequently reduce the emission of N₂O as N₂O is considered to be an atmospheric pollutant due to its significant greenhouse gas effect and destruction of the stratospheric ozone layer. 3) Development of selective catalyst reduction catalysts for NO_x removal from coal fired power stations.

Biographical Statement of speaker:

Dr Zongli Xie is a research team leader and senior research scientist in CSIRO Manufacturing.
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