

A scanning electron micrograph (SEM) of a highly porous, interconnected network of fibers or structures, resembling a sponge or a complex catalyst support. The image is in grayscale, with the porous structure appearing as a light, textured web against a dark background.

# Heterogeneous Catalysts for Sustainable Industry.

A one day workshop to discuss the opportunities for heterogeneous catalysts in future clean, green and sustainable chemical industry.

Catalysis is a key enabling technology for achieving efficient and more sustainable utilisation of resources as well as being crucial to the UK economy. It provides lower energy processes, reduced waste and pollution and improved selectivity in making added-value products for all sectors. About 90% of all chemical processes use catalysts with the estimated economic impact of said processes at 30–40% global GDP.

Heterogeneous catalysts are already a key component of this sector, from petrochemical conversions to catalytic converters, and offer such significant benefits as catalyst/product separation, reuse and recyclability. As the world moves towards more sustainable technologies and feedstocks to ensure a cleaner future heterogeneous catalysts will have an even bigger role to play. This opens the door to new next generation environmentally benign catalysts, or even requires looking to the past for the more traditional zeolite and clay based catalysts to be redesigned for the new challenges.

This workshop, a collaboration between industrial and academic minded scientists, is aimed at providing a platform for new scientists to learn more about heterogeneous catalysts and surface reactivity and for more experienced scientists to look to future possibilities.

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## Aims

- **We aim to** align research with the challenges and opportunities for heterogeneous catalysts in sustainable chemical production processes.
- **We aim to** create a networking interface between industry and academia for the express purpose of furthering the use of heterogeneous catalysts in cleaner, greener chemical industry.
- **We aim to** allow industry to engage with the next generation of catalyst scientists.

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## Sessions

**Session 01 – An introduction to heterogeneous catalysis; presentations on the fundamentals of surface reactivity and characterisation.**

Invited speakers: Dr Samuel Pattison (Cardiff University), Dr Marco Kennema (BASF)

**Session 02 – Heterogeneous catalysts for sustainable industry; what are the current benefits and limitations of heterogeneous catalysts in the chemical industry as well as the opportunities granted by the ongoing drive towards to sustainable feedstocks?**

Invited speakers: Dr Paul Murray (Catalysis Consulting Ltd.), Dr Nicolas Bats (Johnson Matthey)

**Session 03 – Next generation heterogeneous catalysts; presentations on catalyst technologies for the future - from zeolites to nano reactors, pillared clays to polymer scaffolds.**

Invited speakers: Dr Xiaolei Fan (Manchester University), Dr Thomas Chamberlain (University of Leeds)

**Session 04 – Q & A Session with the experts; a round table discussion on “What are the challenges and opportunities for heterogeneous catalysts in a sustainable chemical industry?”**

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## Key information

**Location:** Burlington House, Piccadilly, London

### Early Bird registration:

Full Price - £120 (Non-Members) & £105 (RSC or SCI Members)

Concessions (Students and Young (<28YO)

Investigators) - £40 (Non-Members) & £30 (RSC or SCI Members)

### Registration after 4th October 2019:

Full Price - £165 (Non-Members) & £135 (RSC or SCI Members)

Concessions (Students and Young (<28YO)

Investigators) - £80 (Non-Members) & £60 (RSC or SCI Members)

**Date:** 25th November 2019

**Refreshments:** Tea/coffee breaks x 2, poster lunch

To register to attend or present at the event, visit:

<http://www.rsc.org/events/detail/39897/heterogeneous-catalysts-for-sustainable-industry>