

# NewsLetter

ISSUE 6  
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This issues Case Study  
By Dr David Brown



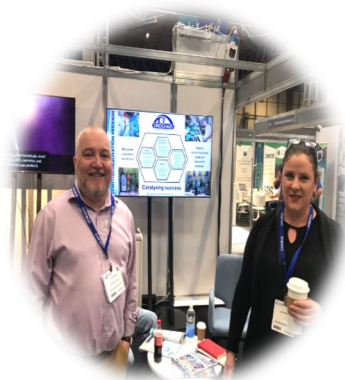
New Team Member Dr Claire Brodie  
Joins Drochaid



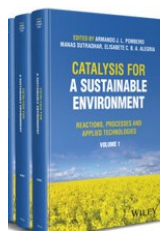
ASIF IQBAL

Outstanding Bravery

Dr Asif Iqbal is Presented the  
Outstanding Bravery Award  
at the  
Pride of Scotland Awards



Drochaid Research Services attends  
CHEMUK 2024



Drochaid is proud to announce the  
recent publication of a book chapter  
co-authored by Cathy Dwyer in the  
Wiley 3-volume series

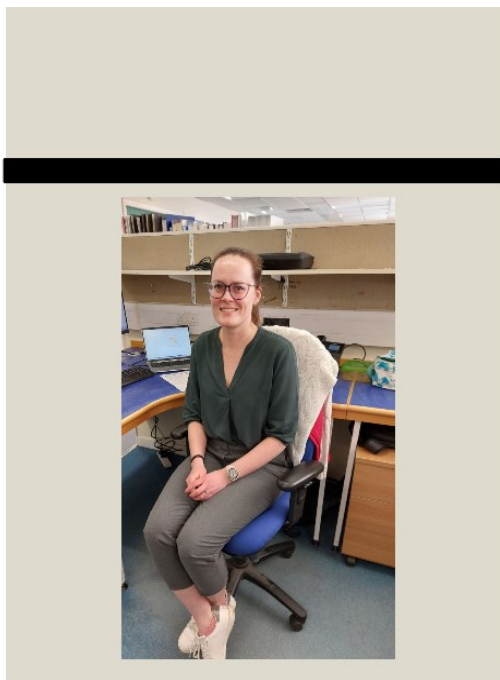


INTERNATIONAL  
SYMPOSIUM ON  
HOMOGENEOUS  
CATALYSIS - XXIII

Drochaid is Bronze Sponsor  
ISHC conference  
21-26 July in Trieste, Italy



## Drochaid welcomes Dr Claire Brodie



We are happy to announce that Dr Claire Brodie has recently joined our team at Drochaid Research. With a wealth of experience in homogeneous catalysis and polymer/materials preparation and characterization, Claire brings a unique skill set to Drochaid.

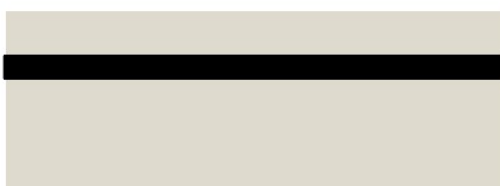
Claire's academic journey is truly impressive, graduating from the University of St Andrews with an MChem in Chemistry, and subsequently pursuing her PhD at the University of Durham, focusing on olefin oligomerization catalysis in the group of Prof Phil Dyer.

Her expertise was further honed during postdoctoral research on amine-borane dehydropolymerization systems (Prof Andy Weller, University of York), and (de)hydrogenation catalysis for sustainable polymer synthesis (Prof Amit Kumar, University of St Andrews).

We are delighted to have Dr Brodie on board at Drochaid Research Services, where her extensive knowledge and experience will undoubtedly contribute to our innovative projects.

Welcome, Claire!

## Introducing Our Newest Team Member Dr Claire Brodie



Dr Asif Iqbal is presented the Outstanding Bravery Award



Dr. Asif Iqbal, our Principal Scientist at Drochaid, showcased exceptional courage and heroism, earning an Outstanding Bravery Award at the prestigious Pride of Scotland ceremony.

His quick response to a car collision, where he rescued an injured driver just moments before the vehicles went up in flames, exemplifies his selfless dedication. Dr. Iqbal's prompt actions not only saved a life but also garnered the gratitude of rescue services.

The event, held at the Hilton Hotel Glasgow, has been widely recognized in newspapers such as the Daily Mail online, The Daily Record, and OK magazine.

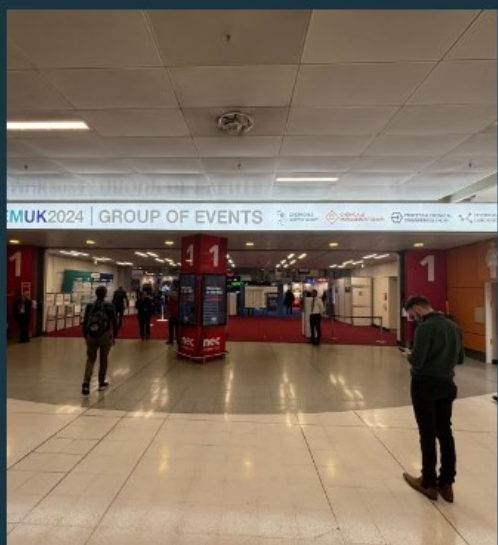
We are incredibly proud of Asif's bravery. Congratulations on this well-deserved honor!

## CHEMUK 2024

### Drochaid Research Stand J76 at Birmingham event

# CHEMUK 2024

DR CATHY DWYER  
AND  
DR DAVID BROWN  
AT STAND J76



Drochaid's Cathy Dwyer and David Brown represented the company at ChemUK 2024, as part of the Scottish Pavilion showcasing Scotland's chemistry and biotechnology sector.

The Scottish Pavilion, organised by IBioC and ScotChem, connected Drochaid with key players in the UK Chemistry community, fostering new relationships and nurturing existing ones.

The expo featured a comprehensive presentation program spread across 5 stages, emphasizing global sustainability challenges and the collective push towards achieving net zero. Great to see collaboration and innovation driving the industry forward!



# Drochaid Case Study

By  
Dr David Brown



## Catalyst preparation: a more active catalyst by changing the calcination conditions during material preparation

### Background

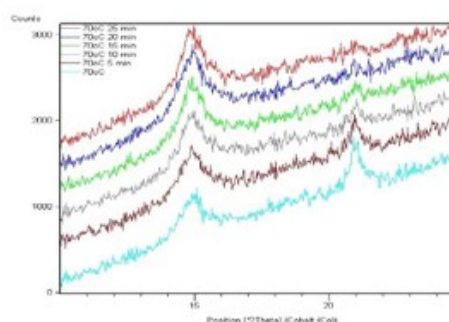
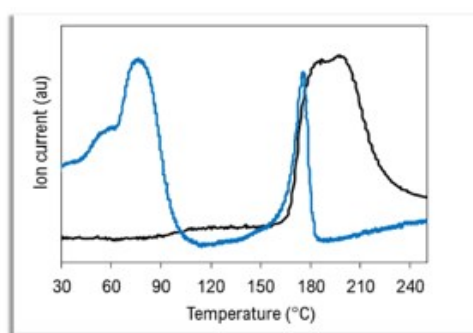
The calcination of supported metal salts is an important step in the production of active and stable catalysts for a number of transformations. Standard calcination conditions involve a flow of air over the supported metal salts while heating to a set temperature in order to convert the salt to a metal oxide on the support materials. However, it is known that using different gas atmosphere can alter the final properties of the catalytic material. A systematic study was carried out to elucidate the origin of the change in activity on a commercial catalyst of one of our customers.



Alumina tubular furnaces with integrated gas supply

### Results and Benefits

The change in the decomposition mechanism was initially studied using a Micromeritics Autochem II with an in-house designed and built multi-gas delivery system. The decomposition gas stream was analysed via both TCD and mass spectrometry. The results showed a dramatic change in the decomposition pathway involving low temperature melting followed by decomposition in one step at higher temperature. Intermediate species and the conversion to the final metal oxide were monitored by *in-situ* power X-ray diffraction (pXRD) experiments.



### Catalyst preparation Techniques

The case study above involves the calcination step of a metal salt impregnated on an alumina support. At Drochaid we can produce catalysts by a number of methods, including impregnation of support materials or precipitation of metal oxides by thermal or pH control. These methods can be carried out to produce catalyst with one or more active component along with a range of activity and selectivity modifiers. The method and sequence of preparation will have a large effect on the final catalyst properties and can be tailored to customer needs/requirements. As described above we can also alter the calcination methods utilised to produce solid catalysts.

Drochaid Research is a Bronze Sponsor  
of the ISHC conference  
21-26th July 2024



Drochaid is a bronze sponsor for the upcoming ISHC conference which will be held from 21-26 July in Trieste, Italy

[\(https://www.ishc2024.com/\)](https://www.ishc2024.com/).

Our MD Cathy Dwyer is a longstanding member of the International Advisory Board for the ISHC meetings, and has also been part of the Scientific Committee for this year's event.

The ISHC strives to create connection and community between academics and industry participants who are active in homogeneous catalysis. It is one of the few established conferences that still runs a single session format, and the program includes an evening mixer where students can meet industry participants, round table discussions on key topics, as well as a session dedicated to Prof. Bob Grubbs, a giant in homogeneous metathesis, Nobel prize-winner and keen supporter of ISHC until his passing in 2021.

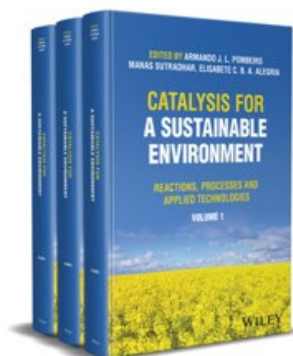
# ISHC 2024

XXIII International Symposium on  
Homogeneous Catalysis

Trieste, July 21-26, 2024



Drochaid is proud to announce our MD Dr Cathy Dwyer as co-author  
in the Wiley 3-volume series



Drochaid is proud to announce the recent publication of a book chapter co-authored by Cathy Dwyer in a Wiley 3-volume series 'Catalysis for a Sustainable Environment: Reactions, Processes and Applied Technologies'.

The chapter delves into Fischer-Tropsch Catalysis for the production of Sustainable Aviation Fuels, available in Volume 1, Chapter 6. Access the book via the provided link for further insights.

[Catalysis for a Sustainable Environment: Reactions, Processes and Applied Technologies, 3 Volume Set | Wiley](#)

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business enquiries, students and new friends.

