

Supergen

Net Zero Conference, 1-3 September 2021
The role of energy research in the pathway to net zero



Dear Attendee,

Thank you for registering for the Supergen Net Zero Conference, exploring the role of energy research in delivering net zero. Within this programme you should find all the information you need to access the entire conference, spanning three days, including all of the Microsoft Teams links.

At Supergen we are really grateful to have the chance to bring together the energy research community around the challenge of delivering net zero, ahead of the crucial United Nations Climate Change Conference (COP26), taking place in Glasgow later this year. We are excited to be able to showcase our work developing the latest technologies and approaches for net zero energy systems, in collaboration with industry, policy and academia.

The move to online conferencing brings about it's own technical challenges, therefore if you have any difficulties accessing the sessions or need support, please get in touch by emailing supergen-bioenergy@aston.ac.uk and we will do our best to help.

We hope you enjoy the conference! Please use the hashtag **#COP26Supergen** to engage in discussion online and share your thoughts ahead of COP26.

About the Supergen programme

Funded by the Engineering and Physical Sciences Research Council (EPSRC), the Supergen programme consists of six Hubs furthering the development of sustainable power generation and supply:

- [Supergen Offshore Renewable Energy \(ORE\) Hub](#)
- [Supergen Bioenergy Hub](#)
- [Hydrogen and Fuel Cell Research \(H2FC\) Supergen Hub](#)
- [Supergen Energy Storage Network+](#)
- [Supergen Energy Networks Hub](#)
- [Supergen SuperSolar Hub](#)



About the Net Zero Conference

Over the course of the three days we will hear from the Supergen Hubs who will be showcasing their research, as well as holding cross-cutting panel discussions exploring topics such as **equality, diversity and inclusion in energy research, international perspectives** on Supergen work, our **early career researcher activities**, and outlining the **policy implications of Supergen research for tackling climate change**.

Supergen

Outline Agenda

Click the session titles to skip to that page of the programme.

| Wednesday 1 Sep | Thursday 2 Sep | Friday 3 Sep |
|---|---|--|
| <u>Early Career Researcher Forum</u> <u>09:00-12:00</u> | <u>Supergen Bioenergy Hub</u> <u>09:00-10:15</u> | <u>Supergen ORE Hub</u> <u>09:00-10:15</u> |
| Break | Break | Break |
| Break | <u>H2FC Supergen</u> <u>10:45-12:00</u> | <u>Supergen Energy Networks Hub</u> <u>10:45-12:00</u> |
| Break | <u>Keynote from Dr Alan Whitehead MP</u> <u>12:30-13:00</u> | Break |
| <u>Equality, diversity and inclusion in energy research</u> <u>13:00-14:30</u> | <u>The importance of international collaboration in sustainable power generation and supply</u> <u>13:00-14:30</u> | <u>SuperSolar Hub</u> <u>13:00-14:15</u> |
| Break | Break | Break |
| <u>Supergen Energy Storage Network+</u> <u>15:00-16:15</u> | <u>Collaborating for net zero, an industry perspective</u> <u>15:00-16:30</u> | <u>Policy implications of Supergen research ahead of COP26</u> <u>15:00-16:45</u> |

Wednesday 1 September (AM)

Early Career Researcher Forum

09:00-12:00

[Click here to join!](#)

Organised by a cross-Hub group of Supergen early career researchers, the ECR Forum is split into three sessions, each beginning with a series of flash talks and then entering into a panel discussion. The three sessions will cover the topics below, and form the basis of a Supergen ECR 'White Paper' on delivering net zero:

- Greening the economy and society
- The future of sustainable transport
- The global transition to clean energy

Speakers:

Session 1

Santosh Kumar (Chair) (Imperial College London)

Ahmed Gailani (University of Leeds)

Joanna Sparks (Aston University)

Parimala Shivaprasad (University of Bath)

Evelyn Heylen (Centrica)

Samuel Perry (University of Southampton)

Kacper Stefaniak (ORE Catapult)

Session 2

Luis Badesa (Imperial College London)

Sagar Jain (Cranfield University)

Amruta Joshi (University of Birmingham)

Santosh Kumar (Imperial College London)

Yousif Al-Sagheer (University of Birmingham)

Session 3

Robin Preece (Chair) (University of Manchester)

Gregory Gregori (Imperial College London)

Stuart Walker (University of Exeter)

Anurag Roy (University of Exeter)

Matyas Daboczi (Imperial College London)

Wei He (University of Warwick)

Simon Ighofose (PyroGenesys)

Your cross-Hub ECR Group:

Santosh Kumar

Bioenergy Hub



Oluwafunmilola Ola

Networks Hub



Kelvin Anoh

Networks Hub



Ajit Pillai

ORE Hub



Rachel Greenhalgh

SuperSolar Hub



Amruta Joshi

Storage Hub



Wednesday 1 September (PM)

Equality, diversity and inclusion (EDI) in energy research

13:00-14:30

[Click here to join!](#)

Led by the Energy Networks Hub, Sara Walker will chair the session and begin by introducing the cross-Hub EDI report she has authored. We will then hear from an array of speakers who will present on EDI interventions which they have undertaken, followed by a Q&A.

Speakers:

Sara Walker (Newcastle University)

Belinda Colston (University of Lincoln)

Leda Blackwood (University of Bath)

Zaffie Cox (EPSRC)

Louise Mullany (University of Nottingham)

Emma Pinchbeck (EnergyUK)

Rachel Oliver (University of Cambridge)

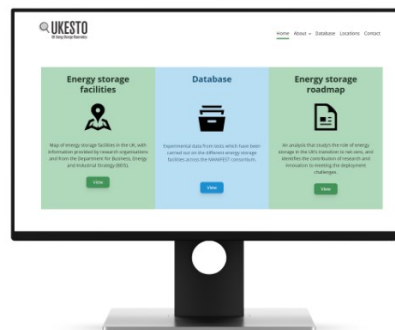
Have your say!

In support of this session we have set up an EDI poll to gather your thoughts and hear your views. Follow the link below and further enable us to ensure EDI is at the forefront of our research projects.

[Click here to complete the EDI poll!](#)



<https://ukesto.supergenstorage.org/>



Check out the **UK Energy Storage Observatory**, which showcases national energy storage innovation, describing energy storage facilities in the UK and providing data from test beds.

The role, value and needs of Energy Storage for Net-Zero by 2050

15:00-16:15

[Click here to join!](#)

The Energy Storage Network+ showcase will be led by Yulong Ding and Haris Patsios, who will open the session with an introduction to energy storage. This is followed by a series of presenters exploring power, transport and heating and cooling, who will then come together for a panel discussion.

Speakers:

Yulong Ding (University of Birmingham)

Antzela Fivga (University of Birmingham)

Zhubin Yu (University of Glasgow)

Jihong Wang (University of Warwick)

Andrew Cruden (University of Southampton)

Haris Patsios (Newcastle University)

Alex Buckman (ESC)

Bart De Leeuw (Department for Business, Energy and Industrial Strategy)

Thursday 2 September (AM)

Biomass for net zero? The view from the Supergen Bioenergy Hub

09:00-10:15

[Click here to join!](#)

Led by Patricia Thornley, the Bioenergy Hub showcase will explore the use of biomass for delivering net zero from the perspectives of their four topic groups, followed by a cross-cutting panel discussion based upon the three themes of:

- Greening the economy and society
- The future of sustainable transport
- The global transition to clean energy

Speakers:

Patricia Thornley (Aston University)

Iain Donnison (Aberystwyth University)

Jason Hallett (Imperial College London)

Nathan Skillen (Queen's University Belfast)

Sam Cooper (University of Bath)

Mirjam Roeder (Aston University)

Joanna Sparks (Chair) (Aston University)



[Watch the recordings](#) of the Progress and Future Challenges in Hydrogen Research online event from 14 July 2021!

Hydrogen and fuel cells in a net zero world

10:45-12:00

[Click here to join!](#)

Led by John Irvine, the Hydrogen and Fuel Cell Research Hub showcase will see presentations considering the net zero economy, developments in hydrogen generation and hydrogen in power sector coupling.

Speakers:

John Irvine (St. Andrew's University)

Paul Dodds (University College London)

Anthony Kucernak (Imperial College London)

Robert Steinberger-Wilckens (University of Birmingham)



Check out the Supergen Bioenergy App!

Thursday 2 September (PM)

Keynote with Dr. Alan Whitehead MP

12:30-13:00

[Click here to join!](#)

[Dr. Alan Whitehead MP](#), Shadow Minister for Business, Energy and Industrial Strategy, will deliver a keynote speech on the challenge of delivering net zero, followed by a short Q&A.



The importance of international collaboration in sustainable power generation and supply

13:00-14:30

[Click here to join!](#)

Led by the ORE Hub, Deborah Greaves will be joined by a series of presenters who will introduce international projects undertaken in collaboration with the UK, providing insights into the challenges and opportunities of working across borders.

Speakers:

Deborah Greaves (University of Plymouth)
Richard Oduro (University of Leeds)
Adam Fraser (Elsevier)
Timothy Silverman (National Renewable Energy Laboratory)
Carrie Noonan (US Department of Energy)
Deborah Greaves (University of Plymouth)
Fara Courtney (Power US)
Mirjam Roeder (Aston University)
Robert Steinberger-Wilckens (Birmingham University)

Collaborating for net zero, an industry perspective

15:00-16:30

[Click here to join!](#)

Led by the Energy Storage Network+, Yulong Ding will be joined by speakers from Supergen industrial partners who will present on their activities and connections with research, leading into a panel discussion that explores potential for future industry-academia partnerships.

Speakers:

Yulong Ding (University of Birmingham)
David Bould (Ørsted)
Amna Bezanty (Kew Technology)
Jim Cardwell (Northern Powergrid)
David Harvey (AFC Energy)
John Irvine (St Andrew's University)
Anthony Kucernak (Imperial College London)
Phil Taylor (University of Bristol)

Friday 3 September (AM)

Offshore Renewable Energy Hub

09:00-10:15

[Click here to join!](#)

The ORE Hub showcase will be led by Deborah Greaves, who will be joined by the ORE Hub's co-investigators to explore the role of offshore renewable energy technologies in delivering net zero.

Speakers:

Deborah Greaves (University of Plymouth)

Beth Scott (University of Aberdeen)

Tim Stallard (University of Manchester)

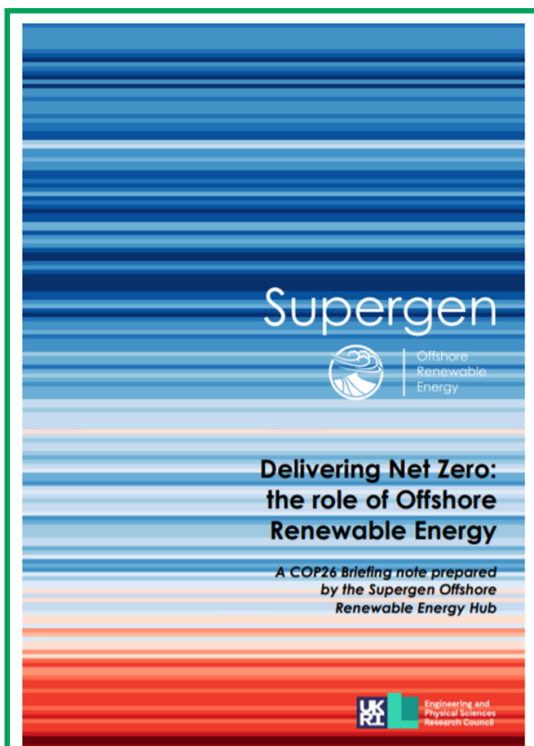
Feargal Brennan (University of Strathclyde)

Xiaowei Zhao (University of Warwick)

Byron Byrne (University of Oxford)



[Read the latest Networks Hub paper:](#) An interdisciplinary research perspective on the future of multi-vector energy networks



[Read the ORE Hub's COP26](#)

[Briefing Note](#), Delivering Net Zero: the role of Offshore Renewable Energy now!

The Role of Energy Networks Towards the 2035 Emissions Target

10:45-12:00

[Click here to join!](#)

The Energy Networks Hub showcase will be led by Phil Taylor, who will be joined by a panel from industry and academia who will explore the role of energy networks in relation to the UK's emissions target for 2035.

Speakers:

Phil Taylor (University of Bristol)

Adam Scorer (National Energy Action)

Sado Jirde (Black South West Network)

Chris Harris (NPower)

Bethan Winter (Wales & West Utilities)

Jenny Cooper (EPSRC)

Michael Pollitt (University of Cambridge)

Jianzhong Wu (Cardiff University)

Furong Li (University of Bath)

Friday 3 September (PM)

SuperSolar Hub

13:00-14:15

[Click here to join!](#)

The SuperSolar Hub showcase will be led by Mike Walls, who will introduce speakers covering the latest perovskite photovoltaic developments, the status of UK solar and updates from the Solar Commission.

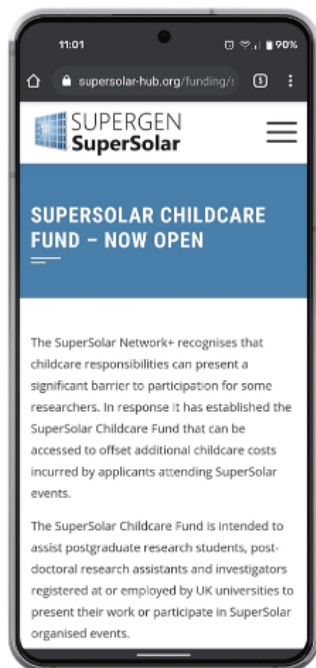
Speakers:

Mike Walls (Loughborough University)

Henry Snaith (University of Oxford)

Chris Hewett (Solar Energy UK)

Alison Walker (University of Bath)



The SuperSolar Hub have launched a new Childcare Fund to cover the costs of additional childcare when attending Hub events.

Policy implications of Supergen research ahead of COP26

15:00-16:45

[Click here to join!](#)

Led by the Bioenergy Hub, this session will begin with an opening speech from [David Joffe, Head of Carbon Budgets at the Climate Change Committee](#).



We will then hear the key policy messages from each Supergen Hub, before entering into a cross-cutting panel discussion on the implications for policymakers of energy research delivering net zero, chaired by Patricia Thornley.

Speakers:

Patricia Thornley (Chair)(Aston University)

David Joffe (Climate Change Committee)

Peter Taylor (University of Leeds)

Henry Jeffrey (University of Edinburgh)

Mike Walls (Loughborough University)

Yulong Ding (University of Birmingham)

Paul Dodds (UCL)

Miranda Elliott (Department for Business, Energy and Industrial Strategy)

Jim Fleming (UK Research and Innovation)

Frank Gordon (Renewable Energy Association)

Gavin Slater (Glasgow City Council)

About the Supergen Hubs



The Supergen ORE Hub is a £9 Million Engineering and Physical Sciences Research Council (EPSRC) funded project. Led by Prof. Deborah Greaves OBE, Head of School of Engineering, Computing and Mathematics at the University of Plymouth, the Hub is a consortium of Universities researching Offshore Renewable Energy which also includes University of Aberdeen, University of Edinburgh, University of Exeter, University of Hull, University of Manchester, University of Oxford, University of Southampton, University of Strathclyde and University of Warwick. The Supergen ORE Hub brings together and builds on the work of the former Wind and Marine Supergen Hubs following consultation with the research community. The new hub looks for synergies between wind, wave and tidal technologies as well as building on current research in each area.

Follow the Supergen ORE Hub on [Twitter](#) and [LinkedIn](#), and sign up to their [mailing list](#).



The Supergen Bioenergy Hub works with academia, industry, government and societal stakeholders to develop sustainable bioenergy systems that support the UK's transition to an affordable, resilient, low-carbon energy future. The Hub is funded jointly by the Engineering and Physical Sciences Research Council (EPSRC) and the Biotechnology and Biological Sciences Research Council (BBSRC) and is part of the wider Supergen Programme.

Follow the Supergen Bioenergy Hub on [Twitter](#) and [LinkedIn](#), and sign up to their [mailing list](#).



The Supergen Energy Networks Hub brings together the vibrant and diverse energy networks community to gain a deeper understanding of the interactions and inter-dependencies of energy networks. Led by Hub Director, Professor Phil Taylor from Bristol University, the Hub integrates a wide range of industrial and academic partners with other energy network stakeholders. The Hub's research is carried out by a consortium of Universities: Newcastle, Bristol, Manchester, Cardiff, Bath and Leeds. The research addresses the challenges of technology, policy, data, markets and risk for energy networks.

Follow the Supergen Energy Networks Hub on [Twitter](#) and sign up to their [mailing list](#).

About the Supergen Hubs

Supergen



Energy Storage

The Supergen Energy Storage Network+ is an integrated, forward-looking platform that supports, nurtures the expertise of the energy storage community, disseminating it through academia, industry, and policy, at a particularly important time when decisions on future funding and research strategy are still being resolved. The Supergen Network+ has secured £1M in funding from the Engineering and Physical Sciences Research Council and has a core partnership of 19 investigators from 12 UK institutions, all focused on the wider advancement, exchange and dissemination of energy storage expertise. A further 100 organisations from the UK and abroad have pledged their support for the network.

Follow the Supergen Energy Storage Network+ on [Twitter](#) and sign up to their [mailing list](#).



The Supergen SuperSolar Hub started in May 2012 and has since successfully formed an inclusive solar community that links research carried out by universities and industry. Led by Loughborough University's Centre for Renewable Energy Systems Technology (CREST) the Hub comprises the Universities of Bath, Cambridge, Imperial College, Liverpool, Oxford, Sheffield and Southampton and the Solar Fuels Network. SuperSolar is funded by the Engineering and Physical Sciences Research Council's (EPSRC) RCUK energy programme. In 2018, the universities of Swansea and Warwick joined the core members.

Follow the Supergen SuperSolar Hub on [Twitter](#).



The Hydrogen and Fuel Cell Research Supergen Hub is funded by the Research Councils UK Energy Programme, as part of the government's Sustainable Power Generation and Supply initiative. It was set up in 2012 to address the key challenges facing the hydrogen and fuel cell sector as it strives to provide cost competitive, low carbon technologies in a more secure UK energy landscape.

Follow the Hydrogen and Fuel Cell Research Supergen Hub on [Twitter](#) and [LinkedIn](#), and sign up to their [mailing list](#).