



National Centre for  
Energy Systems  
Integration

# Conference Programme



EPSRC National Centre for Energy Systems Integration

Research Conference 2019

Collaboration across CESI: Crossing boundaries

23 July 2019

Newcastle University Medical School, NE2 4HH

<https://www.cesienergy.org.uk>



# Programme Contents

<b>Welcome from CESI Director, Prof Phil Taylor .....</b>	<b>3</b>
<b>Keynote Speakers.....</b>	<b>4</b>
<b>Conference schedule .....</b>	<b>5</b>
<b>Useful information .....</b>	<b>7</b>
<b>Map &amp; Contact.....</b>	<b>8</b>

# Welcome from CESI Director, Professor Phil Taylor



Dear Colleague

I am delighted to welcome you to the [EPSRC National Centre for Energy Systems Integration \(CESI\) Research Conference 2019](#), which is being held at Newcastle University.

CESI brings together an interdisciplinary team of experts from the Universities of Newcastle (lead), Durham, Edinburgh, Heriot Watt and Sussex. Our aim is to gain a deeper understanding of the value of energy systems integration with respect to the trilemma of sustainability, affordability and security of supply.

This year's conference has an overarching theme of **Collaboration Across CESI**, crossing boundaries between institutions and disciplines. The conference brings together researchers and academics funded through our Flexible Research Fund in addition to the CESI academic consortium, providing a great opportunity for dissemination and collaboration through presentations, expert talks and poster sessions to inspire future research.

We will conclude with a working session focusing on "Collaboration across energy research consortia", to allow networking and discussion on how CESI and other major UK energy research projects can work together.

Looking forward to seeing you at CESI Research Conference 2019!

Professor Phil Taylor  
Director, EPSRC National Centre for Energy Systems Integration  
Head of Engineering, Newcastle University

## Professor Keith Bell - *University of Strathclyde*

Keith Bell joined the University of Strathclyde in 2005 having previously worked as a researcher in Bath, Manchester and Naples and as a system development engineer in the electricity supply industry in Britain. He was appointed to the ScottishPower Chair in Smart Grids in late 2013 and became one of the co-Directors of the [UK Energy Research Centre](#) in 2014. In July 2018, along with Ian Cotton, he became Scientific Director of the Electrical Infrastructure Research Hub established by the University of Strathclyde with the [Offshore Renewable Energy Catapult](#) and the University of Manchester and, in April 2019, became a member of the [Committee on Climate Change](#).



He is a Chartered Engineer and, at different times, has advised the Scottish Government, the Republic of Ireland government, Ofgem and the UK Department of Business, Energy and Industrial Strategy on power systems issues. In recent years, he has been increasingly active in inter-disciplinary work with collaborators in academia and industry to try to understand the whole energy system and the transition to a low carbon future.

## Professor Stephen McArthur - *University of Strathclyde*

Stephen's area of expertise is intelligent system applications in power engineering, covering condition monitoring, diagnostics and prognostics, active network management and wider smart grid applications. His research leadership roles include being Director of the EPSRC Centre for Doctoral Training in Future Power Networks and Smart Grids, which is a partnership between Strathclyde and Imperial College, London.

Stephen is also Director of the £10m, multi-disciplinary [Energy Revolution Research Consortium – EnergyREV](#). This consortium coordinates and integrates existing UK world-class knowledge research teams and facilities to provide advice, research and innovation support to help ensure the success of the Industrial Strategy Challenge Fund (ISCF) Prospering from the Energy Revolution (PFER) programme.



## Emma Pinchbeck - *RenewableUK*

Emma Pinchbeck is Deputy CEO and sits on the Board of [RenewableUK](#). She is an expert in decarbonisation and a regular commentator on climate change and renewables. Emma strongly supports efforts to improve diversity in the energy sector. She holds several advisory positions, including with Imperial College and Innovate-UK.

Previously, Emma was Head of the Climate Change team at WWF-UK and worked in private consulting. She has an MA from the University of Oxford.

Outside of work, she ran her first Marathon in 2018 to raise money for WWF's climate change work, is otherwise a keen competitive rower, and is passionate about sustainable living – even her wedding dress was from Oxfam!



# Programme

09:00	<p style="text-align: center;"><b>Registration / Tea and coffee</b> Location: Medical School Foyer</p>
09:30	<p style="text-align: center;"><b>Conference opening</b> <b>Professor Phil Taylor, CESI Director, Newcastle University</b> Conference welcome and Introduction Location: David Shaw Lecture Theatre</p>
09:45	<p style="text-align: center;"><b>Session 1: Collaboration - CESI and Beyond</b></p> <p style="text-align: center;">Keynote speaker: <b>Professor Keith Bell, University of Strathclyde,</b> <b>Member of the Committee on Climate Change</b> <b>What is the perspective of the Committee for Climate Change on ESI?</b></p> <p style="text-align: center;"><b>Dr Mark Winskel, University of Edinburgh</b> Interdisciplinary research for energy systems integration: understanding and promoting good practice</p> <p style="text-align: center;"><b>Jingjie Yang, University of Edinburgh</b> A Novel Planning Method for Multi-Scale Integrated Energy System under CO<sub>2</sub> Force</p> <p style="text-align: center;"><b>Ali El Hadi Berjawi, Newcastle University</b> Applying Systems Engineering Concepts for the Evaluation of Whole Energy Systems</p> <p style="text-align: center;"><b>Renaldi Renaldi, Newcastle University</b> Experience curves of low carbon heating technologies in the UK</p> <p style="text-align: center;">Session Chair: <b>Professor Phil Taylor, CESI Director, Newcastle University</b> Location: David Shaw Lecture Theatre</p>
11:00	<p style="text-align: center;"><b>Tea and coffee break</b> Location: David Shaw Atrium</p>
11:15	<p style="text-align: center;"><b>Session 2: Collaboration on Energy Systems Demonstrators</b></p> <p style="text-align: center;">Keynote speaker: <b>Professor Stephen McArthur, University of Strathclyde,</b> <b>Director, EnergyREV</b> <b>EnergyREV and its support of the Prospering from the Energy Revolution (PFER) Programme</b></p> <p style="text-align: center;"><b>Professor Simone Abram, Durham University</b> Control rooms of the future</p> <p style="text-align: center;"><b>Dr Zoya Pourmirza, Newcastle University</b> A UK Energy System Perspective Current Landscape and Future Roadmap</p> <p style="text-align: center;"><b>Dr Seyed Hamid Reza Hosseini, Newcastle University</b> Techno-Economic-Environmental Evaluation of Integration of Multi-Vector Energy Networks For Meeting Heat Demand</p> <p style="text-align: center;"><b>Dr Sandhya Patidar, Heriot-Watt University</b> Experience curves of low carbon heating technologies in the UK</p> <p style="text-align: center;">Session Chair: <b>Dr Sara Walker, CESI Deputy Director, Newcastle University</b> Location: David Shaw Lecture Theatre</p>

12:20	<p style="text-align: center;"><b>Networking lunch and poster display</b> Location: David Shaw Atrium</p>
13:30	<p style="text-align: center;"><b>Session 3: Collaboration - CESI, Government, Regulators &amp; Industry</b></p> <p style="text-align: center;">Keynote speaker: <b>Emma Pinchbeck, Deputy Chief Executive, RenewableUK</b> <b>Wind as a multi-vector energy source</b></p> <p style="text-align: center;"><b>Dr Chris Dent, University of Edinburgh</b> Interdisciplinary collaboration in energy modelling</p> <p style="text-align: center;"><b>Muditha Abeysekera, Cardiff University</b> Decision support tool for the operation of public sector multi-vector energy systems</p> <p style="text-align: center;"><b>Hailiang Du, Durham University</b> Optimization-based Decision Support via Statistical Emulation</p> <p style="text-align: center;"><b>Laura Brown, CESI Centre Manager</b> The North of Tyne as an energy systems integration case study</p> <p style="text-align: center;">Session Chair: <b>Professor Gordon MacKerron, CESI Associate Director, University of Sussex</b></p> <p style="text-align: center;">Location: David Shaw Lecture Theatre</p>
14:45	<p style="text-align: center;"><b>Tea and coffee break</b> Location: David Shaw Atrium</p>
15:00	<p style="text-align: center;"><b>Session 4: Collaboration opportunities across energy consortia</b></p> <p style="text-align: center;">Session Chair: <b>Professor Phil Taylor, CESI Director, Newcastle University</b> Discussion session on collaboration between energy research consortia</p> <p style="text-align: center;">Location: David Shaw Lecture Theatre</p>
16:00	<p style="text-align: center;"><b>Closing remarks</b> Includes prize giving for poster and oral presentations Location: David Shaw Atrium</p>
17:00	<p style="text-align: center;"><b>Close</b></p>

# Useful information

## WiFi Connection

Wireless internet access is available campus-wide. Visitors can connect using eduroam network (using your home institution login) or from the free cloud WiFi network WiFi Guest. This service is provided free of charge and requires no configuration changes to the visitor's computer.

- **Accessing the Newcastle University Wireless Guest Service:**  
<https://services.ncl.ac.uk/itservice/core-services/connect/methods/wirelessguestservice/>

## Photography

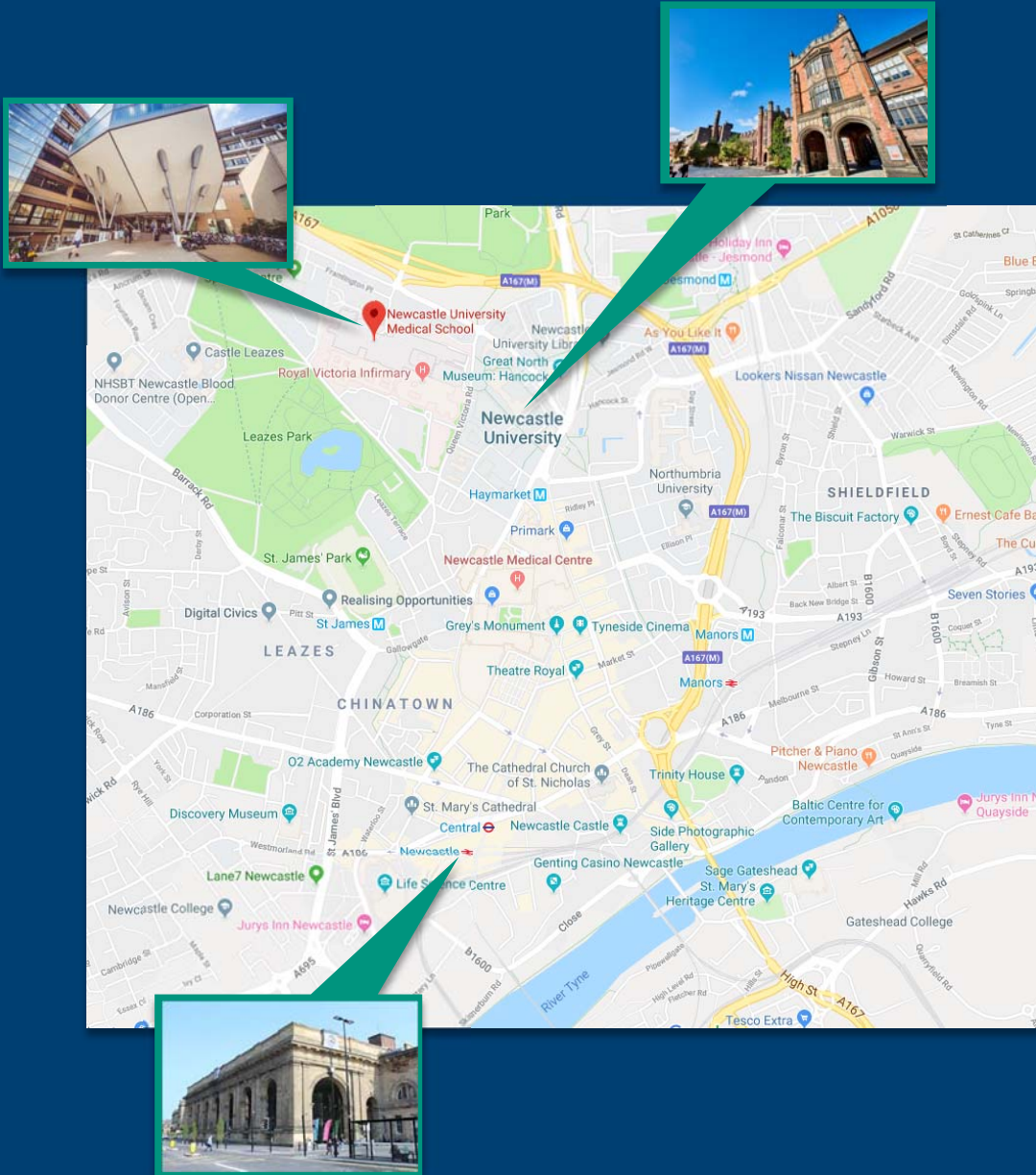
Please note that photographs will be taken by CESI photographers throughout the conference. These photographs may appear on the CESI website or in other forms of publicity material. When you register, you will be asked to indicate if you are happy to be included in these photos.



# Map



National Centre for  
Energy Systems  
Integration



EPSRC National Centre for Energy Systems Integration  
Urban Sciences Building, Newcastle University, Newcastle upon Tyne NE4 5TG, UK



<http://www.cesienergy.org.uk>



@CESIenergy



[cesi@ncl.ac.uk](mailto:cesi@ncl.ac.uk)