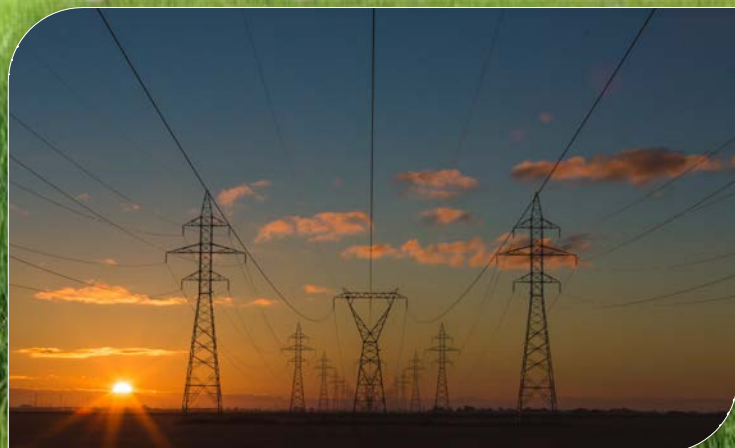


**The UK - India  
Joint Virtual Clean Energy Centre  
(JVCEC)**

**Conference Programme  
18<sup>th</sup> – 20<sup>th</sup> Sep 2018  
Loughborough UK**



**The UK - India  
Joint Virtual Clean Energy Centre (JVCEC)  
Conference Programme  
18<sup>th</sup> - 20<sup>th</sup> September 2018**

**The Turing, Holywell Park Conference Centre  
Loughborough University, Loughborough LE11 3GR  
United Kingdom**

*organized by*



*funded by*



## Tuesday, 18 September 2018 (Day 1)

09:30 Registration and refreshments

### 10:00 Session 1: Introductions

- Welcome by Dr Murray Thomson, JUICE Centre Principal Investigator
- Opening Remarks by Prof Robert Allison, Vice Chancellor Loughborough University 10 mins
- Indian Department of Science and Technology by Dr Amalesh Mukhopadhyay 10 mins
- Overview of UKICERI Centre Activities by Prof Chandan Chakraborty 15 mins
- Overview of IUCERCE Centre Activities by Dr Prakash Ghosh 15 mins
- Overview of JUICE Centre Activities by Dr Murray Thomson 15 mins

11:20 Coffee/Tea Break

### 11:40 Session 2: Technical presentations

“Building Monitoring Systems for Data Analytics and Demand Characterization: Case Studies from (i) IIT Hyderabad and (ii) Swansea University”

Pradeep Kumar Yemula (IIT Hyderabad) and Richard Lewis (Swansea University).

**Presenters:** Pradeep Kumar Yemula & Richard Lewis

“Control Strategy for a Dual Active Bridge Converter for the Integration of Compressed Air Energy Storage System with a DC Micro Grid”

Srinivas Bhaskar Karanki, Sanjib Kumar Mitra (IIT Bhubaneswar) and Mark Dooner, Oleh Kiselychnyk, Jihong Wang (University of Warwick).

**Presenters:** Srinivas Bhaskar Karanki & Mark Dooner

“System Emulation in Microgrids”

Mohammed Aquib, Vijay A. S, Suryanarayana Doola, M. C. Chandorkar (IIT Bombay) and Chao Long, Jianzhong Wu (Cardiff University).

**Presenters:** Suryanarayana Doola & Chao Long

“Impact of Photovoltaic Systems on Power System Stability: The Role of Phase-Locked Loop”

Bandopant Pawar, Saikat Chakrabarti (IIT Kanpur) and Bikash Pal, Georgios Anagnostou, Efstratios Batzelis (Imperial College London).

**Presenters:** Bandopant Pawar & Georgios Anagnostou



## 13:00 Lunch – Poster Session

**14:00 Session 3: Technical presentations**

“VESS Scheduling for Flexibility Provision in Future Low Carbon Power Systems”

Sumanth Yamujala, Anjali Jain, Rohit Bhakar, Jyotirmay Mathur (Malaviya National Institute of Technology - MNIT) and Yue Zhou, Jianzhong Wu (Cardiff).

**Presenters:** Sumanth Yamujala & Yue Zhou

“Solar Pump Irrigators Co-operative Enterprise (SPICE) – a case study of solar microgrid for water pumping applications”

Anil Kottantharayil (IIT Bombay) and Richard Blanchard (Loughborough University).

**Presenters:** Anil Kottantharayil & Richard Blanchard

“Detailed investigation of dust particle impact on PV performance degradation”

Saikat Ghosh, J.N. Roy (IIT Kharagpur) and A Ghosh, S Sundaram, T Mallick (University of Exeter).

**Presenters:** Saikat Ghosh & Aritra Ghosh

“Fault Tolerant Operation of Microgrid”

P. Bajpai, B. R. Naidu (IIT Kharagpur) and B.K. Kumar, M. Malakondaiah (IIT Madras) and A. Cruden, R Wills, M. Kiaee, S. Sun (University of Southampton) and J. Wu, C. Long (University of Cardiff).

**Presenters:** Prabodh Bajpai, B. Ramesh Naidu & Chao Long & Andy Cruden

## 15:20 Coffee/Tea break

**15:30 Session 4: Technical Presentation**

“A methodology for sustainability assessment of rural micro grid projects”

Jane Namaganda-Kiyimba, Joseph Mutale (University of Manchester) and Ajay Chaurasiya, Saikat Ghosh, J.N. Roy (IIT Kharagpur).

**Presenters:** Ajay Chaurasiya & Jane Namaganda-Kiyimba

“Reactive power support from solar PV power plant”

Hazem Karbouj, Zakir H. Rather (IIT Bombay) and Bikash Pal (Imperial College London).

**Presenters:** Zakir H. Rather & Bikash Pal

“Smart Energy Management System and data sharing at IISc (India) and Warwick (UK)”

Subba Reddy B, Umanand L, Joy Kuri (IISc Bangalore) and Mark Dooner, Oleh Kiselychnyk, Jihong Wang (University of Warwick).

**Presenters:** Subba Reddy B & Mark Dooner



“Lithium Titanate/Pyrenecarboxylic Acid Decorated Carbon Nanotubes Hybrid - Alginate Gel Based Supercapacitor”

M. Ojha, R. Mukkabla, M. Deepa (IIT Hyderabad) and J. Le Houx, D. Kramer, R.G.A. Wills (University of Southampton).

**Presenters:** Melepurath Deepaa & Richard Wills

16:50 Wrap up

17:00 CREST Facilities Tour

18:00 End of day 1

19:20 Meet at the Link Hotel Lobby. Bus will leave **at 19.30** from the Link Hotel.

19:45 Dinner at Browns Lane Restaurant in Loughborough.

22.30 Bus will leave from Browns Lane and return to the Link Hotel.





## Wednesday, 19 September 2018 (day 2)

8:50 Refreshments

### 9:00 Session 5: Technical Presentations

“Inclusion of Hydrogen Energy Storage Components into the ESToolBox”

Badri S Rao, S Srinivasa Murthy, Pradip Dutta (IISc Bangalore) and Mark Dooner, Oleh Kiselychnyk, Jihong Wang (University of Warwick).

**Presenters:** S Srinivasa Murthy & Mark Dooner

“2, 5 – polybenzimidazole membranes for enhanced redox flow battery operation”

Rama Bhattacharyya, Prakash Ghosh (IIT Bombay) and Andy Cruden, Richard Wills (University of Southampton).

**Presenters:** Prakash Ghosh & Richard Wills

“Smart Grids and Domestic Demand Modelling”

Subba Reddy B, Umanand L (IISc Bangalore) and John Barton, Murray Thomson (Loughborough University)

**Presenter:** Subba Reddy B & John Barton

“Frequency Regulation in a low-inertia standalone microgrid using optimized energy storage system”

Upama Bose, Sumit K Chattopadhyay, Chandan Chakraborty (IIT Kharagpur) and Bikash Pal, Efstratios Batzelis, Georgios Anagnostou (Imperial College London).

**Presenters:** Chandan Chakraborty & Bikash Pal

10:20 Coffee/Tea Break

### 10:40 Session 6: Technical Presentations

“Modelling, techno e socio-economic analysis of microgrids deployment in India”

Prakash Ghosh, Rangan Banerjee (IIT Bombay) and Chiara Candelise, Sheridan Few, Jenny Nelson (Imperial College London).

**Presenters:** Prakash Ghosh & Chiara Candelise

“Evaluation of new PCM/PV configurations for efficiency enhancement of Grid Connected PV Systems through Thermal management of PV Panels”

A. Ahmad, H. Navarro, X. She, Y. Ding (University of Birmingham) and A. Ghosh, T. Mallick (University of Exeter) and S. Ghosh, J.N. Roy (IIT Kharagpur).

**Presenters:** Saikat Ghosh & Abdalqader Ahmad



**“Protection in Microgrids”**

Himanshu Bahirat, K. C. Chaterjee, Suryanarayana Doolla (IIT Bombay) and Bikash Pal (Imperial College London).

**Presenters:** K. C. Chaterjee & Bikash Pal

**11:40 Coffee/Tea Break****12:00 Session 7: Technical Presentations**

“Investigation of kinetic parameters and cell performance of organic redox flow battery (ORFB)”

E. J. Miji, M. Neergat (IIT Bombay) and A. Cruden, R. Wills (University of Southampton) and B. Wu (Imperial College London).

**Presenters:** Manoj Neergat & Richard Wills

“Data Fusion to Enhance Current and Future Irradiance Values”

Bhaskar Mukhoty (IIT Kanpur) and Diane Palmer (Loughborough University).

**Presenters:** Bhaskar Mukhoty & Diane Palmer

“Performance of daylighting and thermal comfort evaluation of semi-transparent PV device using test cell approach”

K. Kashyap, N. Sharmah (Tezpur University) and A. Ghosh, S. Sundaram, T. Mallick (University of Exeter).

**Presenters:** Nabin Sharmah & Aritra Ghosh

**13:00 Lunch – Poster Session****14:00 Session 8: Technical Presentations**

“Seamless Integration in AC Microgrids”

Ravindranadh C Vankina, Onkar V Kulkarni, Suryanarayana Doolla, Zakir Hussain Rather, B. G. Fernandes (IIT Bombay) and Bikash Pal (Imperial College London).

**Presenters:** Suryanarayana Doolla & Bikash Pal

“Real-time Supervisory Control of Microgrid with Soft Opening Points (SOP)”

Sukumar Mishra, Ranjan K. Mallik (IIT Delhi) and Chao Long, Jianzhong Wu (Cardiff University).

**Presenters:** Sukumar Mishra & Chao Long

“Ageing of Inverters and Other Power Electronic Systems and Its Reliability Analysis”

Saravana Kumar (CDAC) and Tom Betts (Loughborough)

**Presenters:** Saravana Kumar and Tom Betts



15:00 Coffee/Tea Break

**15:10 Session 9: Three parallel sessions**

1. JUICE Management Review (Room: Arkwright)
2. India Centers Management Review with DST (Room: Brunel)
  - a. IUCERCE Management Review (1 hr)
  - b. UKICERI Management Review (1 hr)
3. Engine Room (Researchers/PhD students collaboration discussions) (Room: Turing)

(All return to the Turing)

**17:10 Session 10: Feedback from Engine Room and Concluding Remarks**

17:30 End of Day 2

19:30 Arrival at Burleigh Court for Dinner (10 mins walk from the Link Hotel. Walking map is attached.)





## **Thursday, 20 September 2018 (day 3)**

### **Indo-UK Collaborative Technical Workshop:**

Knowledge transfer presentations from previous five Indo-UK projects.

#### 9.15 – Refreshments

#### 9:30 – Welcome

- Dr Amalesh Mukhopadhyay Indian Department of Science and Technology

#### 9:45 – Reconfigurable Distribution Networks (RDN)

Prabodh Bajpai IIT Kharagpur, Tim C. Green, Imperial College London

#### 10.45 – Coffee/Tea Break

#### 11:00 – Reliable and Efficient System for Community Energy Solutions (RESCUES)

Chandan Chakraborty, IIT Kharagpur, Bikash C Pal, Imperial College London

#### 12.00 - Intelligent Microgrids with Appropriate storage for Energy (IMASE)

Prakash Chandra Ghosh, IIT Bombay, Gavin Walker, University of Nottingham

#### 13:00 – Lunch

#### 14:00 - High Energy and Power Density (HEAPD) solutions to large energy deficits

N. P. Padhy, IIT Roorkee, Furong Li, University of Bath

#### 15:00 – Coffee/Tea Break

#### 15:15 - Advanced Communication and Control for the Prevention of Blackouts (ACCEPT)

Nilanjan Senroy, IIT Delhi, Vladimir Terzija, University of Manchester

#### 16:15 – Discussion: ‘Knowledge transfer to the UK-India Joint Virtual Clean Energy Centre (JVCEC)’

#### 17:00 – End of the workshop





Link Hotel

Link to Burleigh 15 minutes walk

Link to Holywell  
15 minutes walk

Burleigh Court Conference Centre and Hotel

Holywell to  
Burleigh 10 minutes  
walk – follow signs  
from lake through  
car park

Holywell  
Conference  
Centre

CREST







# area map

Our excellent central location  
at Loughborough University is ideal for  
bringing busy people together

#### Satellite Navigation

Please use postcode "LE11 3GR" or type "Holywell Way, Loughborough" into your satellite navigation system.  
(NB: postcode for imago and Loughborough University will not take you to your required destination).

#### Burleigh Court and Holywell Park Conference Centres

Leave at junction 23 of the M1 taking the A512 Ashby Road to Loughborough. At the first roundabout turn right into Holywell Way (signposted for both venues).

#### Loughborough University Campus Events

Leave at junction 23 of the M1 taking the A512 Ashby Road to Loughborough. Go straight across at the first roundabout. Go right at the second roundabout onto the A6004 Epinal Way and then take the first right into Loughborough University's East entrance.

#### The Link Hotel

Leave at junction 23 of the M1 taking the A512 Ashby Road to Loughborough. Continue on the A512 past the BP garage on your right, going through the two sets of traffic lights. Take a left turn onto the slip road to reach The Link Hotel entrance.



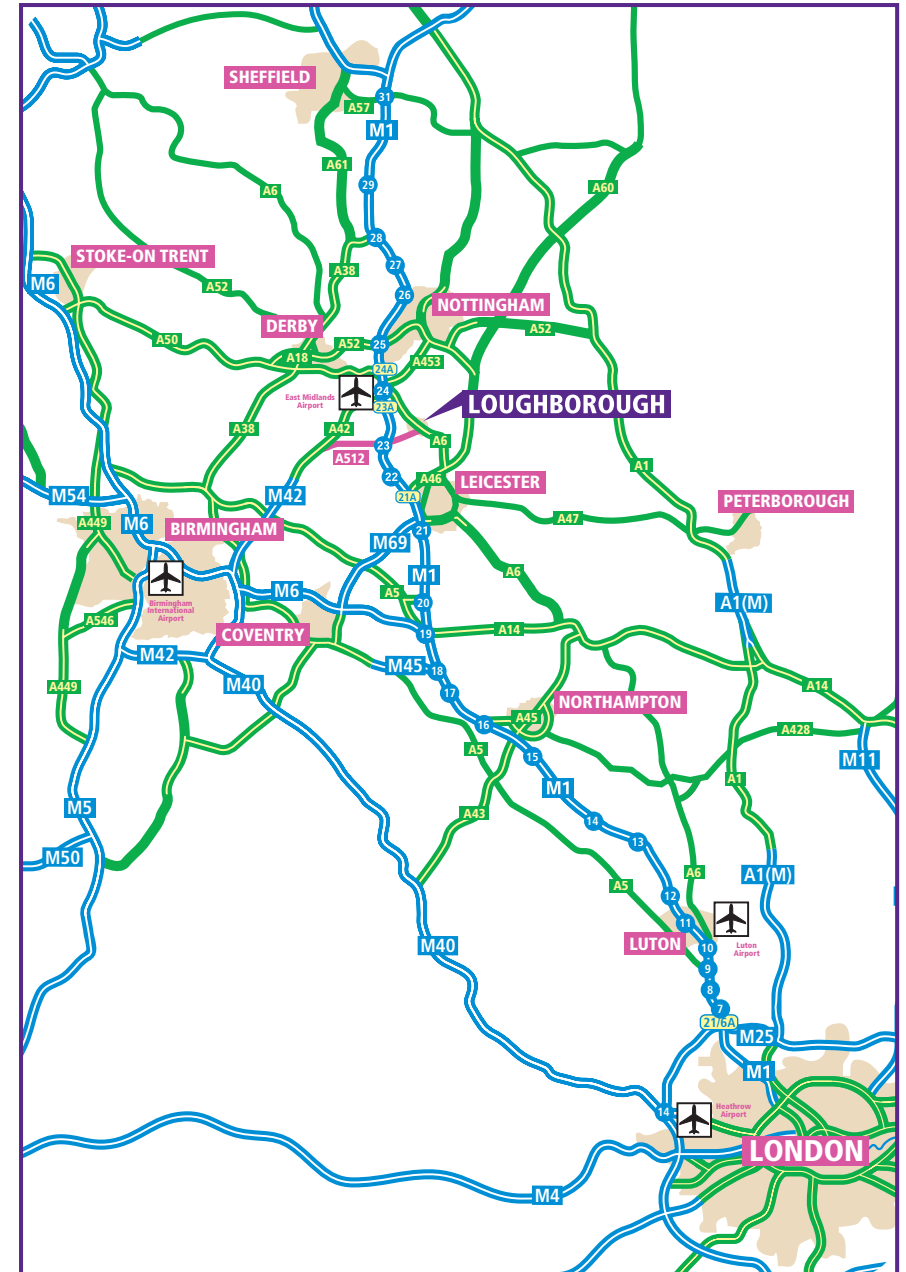
M1 Junction 23  
1 mile



East Midlands Airport  
8 miles



Loughborough Midland Mainline Station  
1 mile



# street map



For imago at Holywell Park & imago at Burleigh Court use West Entrance.

### By Air

The University is just 8 miles from East Midlands Airport ([www.eastmidlandsairport.com](http://www.eastmidlandsairport.com)) and convenient for Birmingham International Airport ([www.bhx.co.uk](http://www.bhx.co.uk)) via the M4.

### By Rail

Regular main line services operate from London St Pancras, which is a 90 minute journey, then approximately a 10 minute taxi ride from Loughborough Station. [www.midlandmainline.com](http://www.midlandmainline.com)

### By Bus

The popular University Shuttle bus, operated by Kinchbus, travels between the University and Loughborough's train station daily. Kinchbus also operates an evening service from the University to town and back from 6pm until 9pm each Monday to Friday evening during term time.

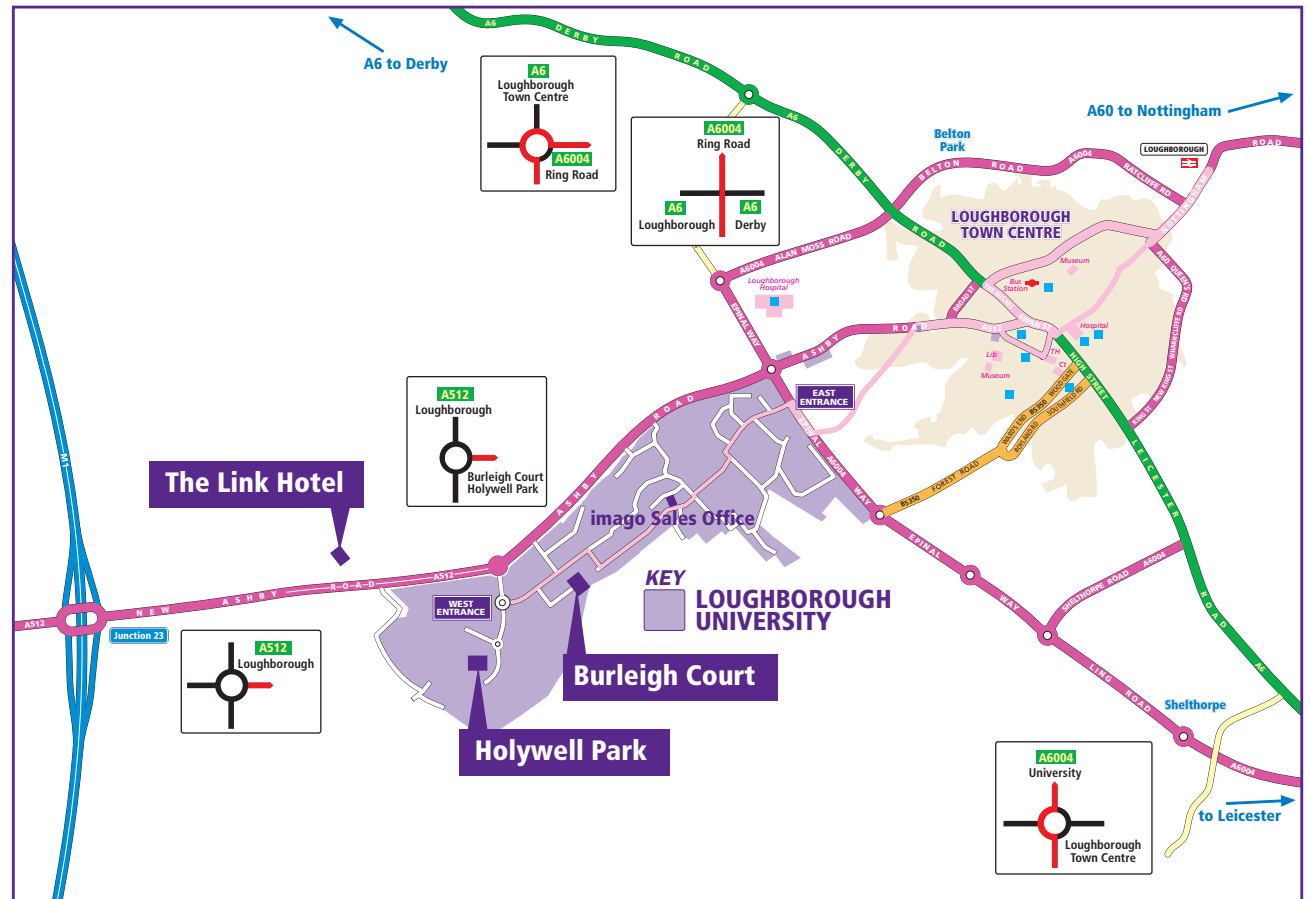
The bus route timetable can be found at [www.trentbuses.co.uk/timetables](http://www.trentbuses.co.uk/timetables) or telephone 01509 816161 for a copy of the timetable.

### By Road

The University is situated to the west of Loughborough town centre close to the M1 (Junction 23) and the A6. The University is then conveniently signposted from either of these main routes.

### On Arrival

Security barriers are in operation at each entrance to the campus. Visitors are asked to report to one of the gatehouses where staff will issue a pass and direct you to your destination.



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