

**The UK - India
Joint Virtual Clean Energy Centre (JVCEC)
ONLINE Conference Programme
21-22 September 2020**

organized by



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विज्ञान एवं प्रौद्योगिकी विभाग
DEPARTMENT OF
SCIENCE & TECHNOLOGY

Monday, 21 September 2020 (Day 1)**Start UK 9:30 = India 14:00 End UK 14:30 = India 19:00**

09:00 (India 13:30) Online meeting room opens

09:30 (14:00) Session 1: Introductions

- Welcome by Murray Thomson
- UK Engineering and Physical Sciences Research Council (UKRI EPSRC) by Amy Spalding 10 mins,
- Indian Department of Science and Technology (DST) by Dr Reddy/Dr Bajpai 10 mins
- UKRI-India by Dr Monika Sharma 10 mins
- Overview of UKICERI Centre Activities by Chandan Chakraborty 10 mins
- Overview of IUCERCE Centre Activities by B G Fernandes 10 mins
- Overview of JUICE Centre Activities by Murray Thomson 10 mins

10:30 (15:00) Session 2: Technical presentations (Chair: Bikash Pal)

10:30 (15:00) JUICE white paper “Solar integration in the UK and India: technical barriers and future directions”Efstratios Batzelis, Bikash Pal, Billy Wu, Firdous Ul Nazir, Jerome Nsengiyaremye*Imperial College London*

John Barton, Diane Palmer, Murray Thomson,

Loughborough University

Wei He, Mark Dooner, Marcus King, Jihong Wang

University of Warwick

Zakir Rather,

IIT Bombay

Bandopant Pawar, Saikat Chakrabarti

IIT Kanpur

Chandan Chakraborty, Ramesh Naidu, Prabodh Bajpai

*IIT Kharagpur***10:50 (15:20) “Soiling Map for forecasting of Photovoltaic power generation in India”**Aritra Ghosh, Senthil Sundaram, Tapas Mallick*University of Exeter*Saheli Sengupta, Hiranmay Saha,*IEST Shibpur*Saikat Ghosh, J.N. Roy*IIT Kharagpur***11:10 (15:40) “A comparison of modelling frameworks for microgrid system sizing and analysis, and their application to the case study of Mount Abu Spiritual Centre, Rajasthan”**Sheridan Few, Jenny Nelson, Chiara Candelise*Imperial College London*Ajit Paul Abrahams, Rangan Banerjee, Prakash Ghosh*IIT Bombay*

11:30 (16:00) Break and discussions (30 mins)

12:00 (16:30) Session 3: Technical presentations (Chair: Tom Betts)

12:00 (16:30) “Grid-tied multilevel photovoltaic inverter with batteries power balancing”

Laimonas Rukšnaitis, Oleh Kiselychnyk, Jihong Wang and Mark Dooner

University of Warwick

Srinivas Bhaskar Karanki, Chandrasekhar Perumalla

IIT Bhubaneswar

12:20 (16:50) “Fault Tolerant Operation of Microgrid”

Andy Cruden, Amruta Joshi

University of Southampton

P. Bajpai, B. R. Naidu,

IIT Kharagpur

B.K. Kumar, M. Malakondaiah

IIT Madras

12:40 (17:10) Flash presentations

“Development of Hybrid Power Conditioning System for remote Micro Grid Environment”

Ramesh P, Saravana Kumar A, Aby Joseph

Power Electronics Group, C-DAC, Trivandrum, India

“Solar Power and Energy Storage to Decarbonise Transport in India”

John Barton, Murray Thomson

Loughborough University

13:00 (17:30) Break and discussions (30 mins)

13:30 (18:00) Session 4: Technical Presentations (Chair: Billy Wu)

13:30 (18:00) “An Intelligent Tool to Estimate Solar PV Penetration”

Bikash Pal

Imperial College London

Dhanuja Lekshmi J, Zakir Hussain Rather

IIT Bombay

13:50 (18:20) “Evaluation of new PCM/PV configurations for efficiency enhancement of Grid Connected PV Systems through Thermal management of PV Panels”

Abdalqader Ahmad, Helena Navarro, Yulong Ding

University of Birmingham

Saikat Ghosh, J.N. Roy

IIT Kharagpur



14:10 (18:40) “Flexibility Enhancement through Virtual Energy Storage Systems in Low Carbon Power Systems”

Yue Zhou, Jianzhong Wu

Cardiff University

Sumanth Yamujala, Anjali Jain, Rohit Bhakar, Jyotirmay Mathur

MNIT Jaipur

14:30 End of day 1 (India 19:00)

Tuesday, 22 September 2020 (Day 2)

Start UK 9:30 = India 14:00 End UK 14:30 = India 19:00

9:00 (13:30) Online meeting room opens

9:30 (14:00) Session 5: Technical Presentations (Chair: Murray Thomson)

9:30 (14:00) “Grid forming control of solar PV plants without energy storage”

Bikash Pal, Efstratios Batzelis

Imperial College London

Saikat Chakrabarti, Bandopant Pawar

IIT Kanpur

9:50 (14:20) “A comparison of high voltage-step-up ratio converters for the connection of solar farms”

Andy Cross, Nakul Narayanan-Kuruveetil

Loughborough University

Umanand L

IISc Bangalore

10:10 (14:40) Flash presentations**“Distributed Secondary Controllers for DC Microgrid”**

Shyam AB, Shirajul Islam, Anoop Ingle, Abhiram VP, Sandeep Anand, Soumya Ranjan Sahoo

IIT Kanpur

“Comparing and contrasting solar resource databases in the UK and India”

Diane Palmer, Tom Betts

Loughborough University



10:30 (15:00) Session 6: Technical Presentations (Chair: Chiara Candelise)

10:30 (15:00) Optimal DG Allocation and Volt-var Dispatch for a Droop Based Microgrid

Yusuf Gupta, Suryanarayana Doolla, Kishore Chatterjee

IIT Bombay

Bikash Pal

Imperial College London

10:50 (15:20) "Initial Study of a Self- powered cooling and cleaning system for Solar Photovoltaics Efficiency Improvement Based on Compressed Air Energy Storage"

Dacheng Li, Marcus King, Mark Dooner, Jihong Wang

University of Warwick

Jatindra Nath Roy, Chandan Chakraborty, Saikat Ghosh

IIT Kharagpur

11:10 (15:40) "Voltage regulation through adaptive P-Q injection by distributed PV inverters in a weak grid"

Efstratios Batzelis, Bikash Pal

Imperial College London

Anubrata Das, Sandeep Anand

IIT Kanpur

11:30 (16:00) Break and Discussions (30 mins)

12:00 (16:30) Session 7: Technical Presentations (Chair: Andy Cruden)

12:00 (16:30) "Multifunctional Capabilities of a PV-BES Based Microgrid Powering an Adaptable Glass Window for Energy Efficient Buildings"

Tapas Mallick, Aritra Ghosh

University of Exeter

Bhim Singh, Shalvi Tyagi

IIT Delhi

12:20 (16:50) "A new PV inverter / supercapacitor architecture for grid support"

Efstratios Batzelis

Imperial College London

Karpana Sivakrishna, Suman Maiti, Chandan Chakraborty

IIT Kharagpur

12:40 (17:10) Flash presentations

"Hydrophobic anti-soiling coatings for solar cover glass"

Farwah Bukhari, Michael Walls

Loughborough university



13:00 (17:30) Session 8: Technical Presentations (Chair: Murray Thomson)

13:00 (17:30) "Impedance measurement as a function of state of charge in soluble lead flow battery (SLFB)"

Richard Wills

University of Southampton

Miji E Joy, Manoj Neergat

IIT Bombay

13:20 (17:50) "Single Parameter Exponential Time Series Smoothing to Dampen Wind Power Irregularities in Grid-Integrated Doubly Fed Induction Generator"

Tapas Mallick, Aritra Ghosh

University of Exeter

Bhim Singh, Souvik Das, Sambasivaiah Puchalapalli

IIT Delhi

13:40 (18:10) "Examining Technical and Non-Technical Challenges on Performance and Longevity of Batteries for Micro and Nano-Grids"

Chrispin Gogoda Mbewe, Richard Blanchard

Loughborough University

Anil Kottantharayil and Suryanarayan Doolla

IIT Bombay

14:00 (18:30) Session 9: Discussions & Concluding Remarks

14:30 (19:00) End of Conference

