



UNIVERSITY OF
BIRMINGHAM

2019 International Forum on DC Technologies and Renewable Energy Integration

University of Birmingham, UK

Tuesday 5th Feb 2019



2019 International Forum on DC Technologies and Renewable Energy Integration

The Objectives of the Forum:

Decarbonizing the power sector by ramping up the adoption of renewable energy is essential to meet the goals of the Paris Agreement where the required acceleration of the global shift to low carbon can only be achieved through a combination of clean energy generation, modern transmission & distribution technologies and power grid connectivity, which all play important roles in the transition.

However, with the significant integration of renewable energy into power grids, power grid connectivity and flexible control capabilities to deal with open access to the grid, optimisation of renewable sources globally and locally, fast power flow, voltage and frequency control become fundamental issues. In this situation, DC technologies and FACTS become important options.

This Forum is to bring international experts together to discuss:

1. The recent developments in HVDC/UHVDC technologies and practical installations as well as emerging applications
2. The emerging MV/LV DC systems, DC/DC conversion technologies and practical applications as well as the needs for international standards
3. Emerging control capabilities and applications of VSC HVDC systems
4. Developments in simulation and modelling techniques for DC systems and FACTS
5. Economic analysis of regional and international interconnectors

and hence foresee the R&D opportunities of stepping into a future flexible, reliable, sustainable and affordable energy systems.

2019 International Forum on DC Technologies and Renewable Energy Integration

Venue: Pevsner Room, Edgbaston Park Hotel, 53 Edgbaston Park Road,
Birmingham B15 2RS United Kingdom
University of Birmingham, UK
Tuesday 5th Feb 2019

Arrival/Coffee/Tea 9:00am

Welcome & Housekeeping 9:30 – 9:40am

Xiao-Ping Zhang, PhD, Professor, University of Birmingham

Session 1: Simulation Platforms and Tools for DC/AC and Power Electronics Applications

Chair: An Wen, PhD, Professor, Foshan University, China

1. Aniruddha M. Gole, Ph.D., FIEEE, FCAE, Distinguished Professor and NSERC Industrial Research Chair in Power Systems Simulation, University of Manitoba
Challenges and Solutions in Simulating Tools for the Future AC-DC grid
9:40 – 10:10
2. Yi Zhang, PhD, Vice-President R&D and CTO, RTDS Technologies Inc.
Real Time Digital Simulation of Power Electronics Circuits and Systems
10:10 – 10:40
3. Jenny Z. Zhou, PhD, Senior Supervising Engineer, Teshmont Consultants LP
A Case Study – HVDC reactive power and DOV requirement when coal fired generation replaced by renewable energy sources
10:40 – 11:10

Break 11:10 – 11:30am

Session 2: Emerging DC Applications: MVDC & LVDC and DC/DC Converters

Chair: Jingchao Deng, PhD, National Grid Electricity System Operator, UK

4. Zhao Ma, PhD, Professor, Shangdong University, China
MVDC & LVDC Applications and Development Trends
11:30 – 12:00
5. Jonathan Berry, Innovation and Low Carbon Networks, Western Power Distribution
33kV MVDC Flexible Power Link
12:00 – 12:30
6. Liangzhong Yao, Professor, Wuhan University, China
DC Grid with DC/DC Converters: Opportunities and Challenges
12:30 -1:00

Lunch Break 1:00 – 2:15pm



Session 3: HVDC/UHVDC Developments and Applications

Chair: Masoud Bazargan, Managing Director, Power Technologies Limited, UK

7. Ting An, PhD, Chief Expert, State Grid Global Energy Interconnection Research Institute, China
Development of U/HVDC Technologies and Systems in China
2:15 – 2:45
8. Xiao-Ping Zhang, PhD, Professor of Electrical Power Systems and Director of Smart Grid, Birmingham Energy Institute, University of Birmingham, UK
Flexible LCC HVDC
2:45 – 3:15
9. Xueguang Wu, PhD, Chief Expert, State Grid Global Energy Interconnection Research Institute, China
Commutation failure right through (CFRT) of the HVDC
3:15 – 3:45

Break 3:45 – 4:05pm

Session 4: HVDC/FACTS Developments and Regional Energy Interconnection

Chair: Xiaoyao Zhou, PhD, Technical Policy Manager, National Grid Electricity System Operator, UK

10. Dennis Woodford, Member of US National Academy of Engineering, FIEEE, President of Electranix Corporation,
Keynote Speech: *VSC converters providing effective short circuit capacity and AC frequency stabilization*
4:05 – 4:45
11. Dechao Kong, PhD, Power System Engineer, National Grid Transmission
A New Independent Methodology of Protection & Control Coordination Studies for Modern Power System with Power Electronic Applications
4:45 – 5:15
12. Angelo L'Abbate. PhD, Energy Systems Development Department, Ricerca sul Sistema Energetico - RSE S.p.A.
Preliminary techno-economic evaluation of the impact of the HVDC SA.CO.I. 3 project interconnector
5:15 – 5:45
13. Pingliang Zeng, PhD, Professor, Hangzhou Dianzi University
Northeastern Asia Interconnection
5:45 – 6:15

Concluding Remarks 6:15 – 6:30pm

Dinner 6:30pm

Transport to 2019 IET AC DC Conference 9:00pm

Directions and Car Parking

The forum will take place in the Pevsner Room (found on the first floor) of the new Edgbaston Park Hotel on Campus.

The Hotel and Conference Centre are on Edgbaston Park Road, near to the University of Birmingham's other conference facilities. From Birmingham city centre, it's a 2-mile drive to the hotel, which should take around **11 minutes**. **University** train station is a 15-minute walk, with a high-frequency **6-minute** service direct to **Birmingham New Street** train station.

University Campus Map can be accessed there:

<https://www.birmingham.ac.uk/visit/maps-and-directions.aspx>

The hotel's full address is:

Edgbaston Park Hotel and Conference Centre
53 Edgbaston Park Road
Birmingham
B15 2RS

Using a satnav? The postcode B15 2RS will bring you directly here.

The hotel entrance is on Edgbaston Park Road (you may use "*53 Edgbaston Park Road*" to locate the exact position of the hotel).

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Complimentary parking spaces available at Edgbaston Park Hotel, Hornton Grange Hotel, Garth House, Lucas House Hotel and the ground floor of the Pritchatts Road Car Park. **All guests must obtain a parking permit from the reception desks and display on the dashboard of each vehicle.**

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