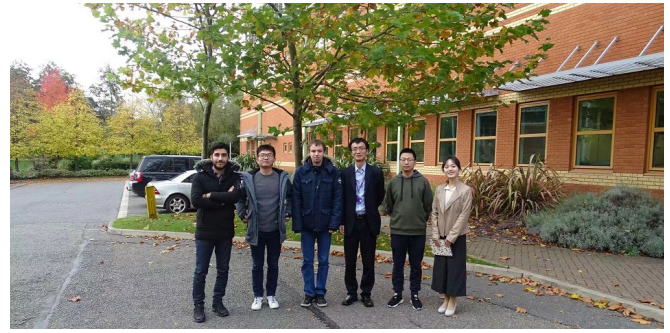




# NEWSLETTER

Issue 4, July 2019



Dr Zhengyu Lin moved to Loughborough University

## INSIDE THIS ISSUE

- The 1<sup>st</sup> periodic report approved by EU
- Zhejiang University attended inventions Geneva
- Loughborough University joined RDC2MT
- New Publications

## ABOUT RDC2MT

Research, Demonstration and Commercialisation of DC Micro-grid Technologies (RDC2MT) is a four-year international collaborative research project (2017 to 2020) funded by EU H2020 RISE program, and aims to address new challenges of low voltage DC microgrids.



Contact us:

Project Coordinator: Dr Zhengyu Lin

Email: [info@rdc2mt.org](mailto:info@rdc2mt.org)

Website: [www.rdc2mt.org](http://www.rdc2mt.org)



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 734796.

## THE FIRST PERIODIC REPORT APPROVED BY EU

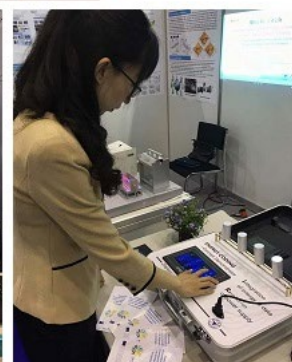
The first periodic report was submitted on time, and the EU agency considered the RDC2MT project implementation for the period satisfactory.

During the first periodic report period (from 1<sup>st</sup> Feb 2017 to 31<sup>st</sup> Jan 2019), 30 person-months secondment were completed, which is 96.7% of planned secondments in this period, and 31% of total planned secondments. In total, 13 ESRs have been involved in secondments, and more than 10 ESRs have presented their work in the project workshops and international conferences.

The project has made a good progress in all technical tasks. 12 peer-reviewed papers (including accepted) have been published and reported our research outcomes in power converters, DC microgrid controls, and system optimisations. All these papers allow free and open access, and are stored in the recognized repository "[Zenodo](https://zenodo.org/)".

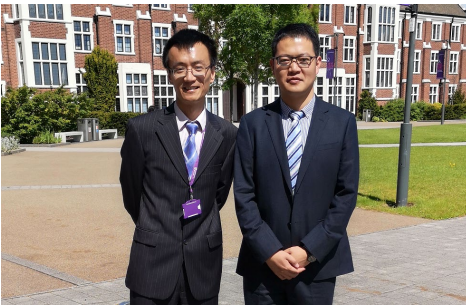
## ZHEJIANG UNIVERSITY ATTENDED INVENTIONS GENEVA

In April 2019, as part of the Zhejiang University team, RDC2MT project MSCA Fellow Ruichi Wang attended The International Exhibition of Inventions of Geneva. She presented one of the results of RDC2MT project: Energy coding. Energy coding is a new technology to integrate communication into power converters, and transfer energy and data at the same time. This work has received silver medal from the Exhibition.





Prof. He visited Loughborough



Prof. Wang visited Loughborough



Fulong won IES-SYPA competition



Nils van der Blij in ECCE Aica 2019

#### About RDC2MT

RDC2MT is a four-year project (2017 to 2020) to undertake collaborative research on DC microgrids, from fuel cell electrochemistry at molecular scale to microgrid optimization at system level. The project is supported by European Commission Horizon 2020 Marie Skłodowska-Curie actions Research and Innovation Staff Exchange (RISE) program.



DC power system is more reliable, efficient, and simple. It has natural interface to renewable energy and energy storage.

Contact us:  
Project Coordinator: Dr. Zhengyu Lin  
Email: info@rdc2mt.org  
Website: www.rdc2mt.org  
Twitter: @RDC2MT

Research,  
Demonstration and  
Commercialisation  
of DC Microgrid  
Technologies



The project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 734796.

RDC2MT project Brochure

## LOUGHBOROUGH UNIVERSITY JOINED RDC2MT

RDC2MT project coordinator, Dr Zhengyu Lin, moved from Aston University to Loughborough University in May 2019. A project grant agreement amendment request has been approved by European Commission, and Loughborough University now become the project coordinator organisation of RDC2MT project.

Loughborough University is a top 10 University in the U.K., and was named University of the Year 2019 in The Times and Sunday Times University Good University Guide. The Centre for Renewable Energy Systems Technology (CREST) is a leading European academic group for sustainable energy research. It was established in 1993, and has been recognised internationally as a centre of excellence in its field particularly in photovoltaic systems, materials and devices, wind power and integration of renewable energy into electricity grids.

Prof. Xiangning He of Zhejiang University and Prof. Wang of Shanghai University visited Loughborough University in May 2019, and discussed further funding opportunities and potential joint research programs with Dr Zhengyu Lin.

## FULONG WON IES-SYPA COMPETITION AT ISIE 2019

In June 2019, RDC2MT project MSCA Fellow, Fulong Li, attended IEEE 28th International Symposium on Industrial Electronics (ISIE) conference in Vancouver, Canada, and presented a joint research work of "Virtual Negative Cable Resistance for Power Sharing Accuracy Enhancement in DC Microgrids". The quality of the work has been recognised by the IEEE IES Students and Young Professionals Activity (SYPA) Committee, and Fulong is one of the Awardees of the IES-SYPA competition for the IEEE ISIE 2019 conference. A short video was made for Fulong's contribution in this research work, which is available in [YouTube](#).

## NEW PUBLICATIONS

M. Alshareef, Z. Lin, M. Ma, and W. Cao, "Accelerated Particle Swarm Optimization for Photovoltaic Maximum Power Point Tracking under Partial Shading Conditions", *Energies* 2019, 12(4), 623 ([Zenodo download](#))

F. Li, Z. Lin, A. Chen and J. Wu, Terminal Capacitor Compensation Based Stability Design for DC Microgrids, IEEE 3rd International Conference on DC Microgrids (ICDCM), Matsue, Japan, May 2019 ([Zenodo download](#))

N. van der Blij, L. Ramirez-Elizondo, M. Spaan, W. Li and P. Bauer, Stability of DC Distribution Systems: Analytical and Experimental Results, IEEE 3rd International Conference on DC Microgrids (ICDCM), Matsue, Japan, May 2019 ([Zenodo download](#))

N. van der Blij, L. Ramirez-Elizondo, M. Spaan, W. Li and P. Bauer, State-Space Modeling of DC Distribution Systems: Experimental Validation, the 10th International Conference on Power Electronics – ECCE Asia (ICPE 2019-ECCE Asia), Busan, Korea, May 2019 ([Zenodo download](#))

F. Li, Z. Lin, J. Wu and W. Li, Virtual Negative Cable Resistance for Power Sharing Accuracy Enhancement in DC Microgrids, the 28th IEEE International Symposium on Industrial Electronics (ISIE), Vancouver, Canada, June 2019 ([Zenodo download](#))