



# NEWSLETTER



Issue 6, December 2020

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## ABOUT RDC2MT

Research, Demonstration and Commercialisation of DC Microgrid Technologies (RDC2MT) is an international collaborative research project aims to address new challenges of DC microgrids in the applications of DC powered houses and DC distribution networks.



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

## RDC2MT TEAM IN THE 29TH IEEE INTERNATIONAL SYMPOSIUM ON INDUSTRIAL ELECTRONICS (ISIE 2020)

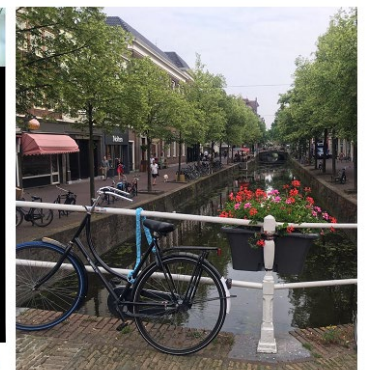
29th IEEE International Symposium on Industrial Electronics (ISIE 2020) was held online from 16-19 June 2020. The conference was organized by Delft University of Technology. RDC2MT consortium members actively participated in this conference, and shared our project fundings and DC microgrids knowledge with all the attendees of the conference.

A tutorial of “DC and AC microgrids” was given by Dr. Laura Ramírez Elizondo and Prof. Pavol Bauer of Delft University of Technology. A keynote speech of “Energy Storage - Overview and Research” was presented by Prof. Claudio Cañizares of University of Waterloo. This keynote speech can be still viewed from [YouTube](#).

A Special Session on “Advanced Technologies for DC Microgrid Plug-and-Play Operations” was organized by the RDC2MT team, which includes 5 presentations. The session was chaired by Prof. Fei Wang (Shanghai University) and Dr Zhengyu Lin (Loughborough University). RDC2MT researchers Fulong Li, Tianling Shi and Nils H. van der Blij presented their work. Their papers and links to the full papers can be found in “New Publications” sessions of this newsletter.

**IEEE ISIE 2020: Virtual**

- Switching the 2<sup>nd</sup> largest IES conference to Virtual...
- Almost 300 videos, pitch slides
- Biggest thanks goes to delegates!
- Local team
- Let's learn together



**ISIE 2020**

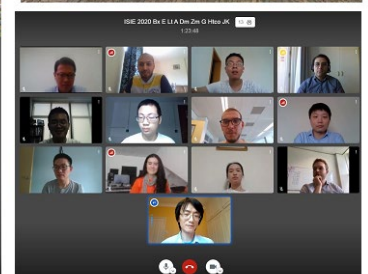
**Keynote**

**Claudio Cañizares**

Thursday 18 June, 13:00 CEST

29th IEEE International Symposium on Industrial Electronics

June 17-19 2020  
Delft, The Netherlands





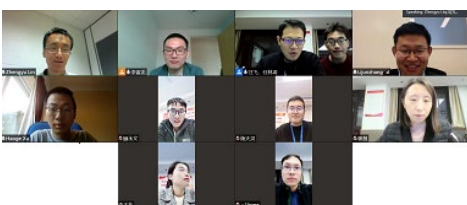
Dr Ruichi Wang in her secondment



Loughborough University campus



Fulong Li presented in PESGM 2020



LU-SHU joint online workshop Dec 2020

## DR RUICHI WANG IS SUCCESSFUL IN HER H2020 MSCA-IF 2019 INDIVIDUAL FELLOWSHIP APPLICATION

Dr Ruichi Wang of Zhejiang University has been successful in her H2020 MSCA-IF-2019 Individual Fellowship application. The funded project is entitled "Power and Information Integration Technologies in Microgrids (PAINTING)". Dr Wang will be hosted by Dr Zhengyu Lin at Loughborough University for her Fellowship, and plans to visit TU Delft and a couple of new EU project partners for a few month secondment during her Fellowship. Dr Wang worked on RDC2MT project at Aston University in 2018.

## RDC2MT PROJECT HAS BEEN EXTENDED FOR 1 YEAR

Because of the global COVID-19 pandemic, the project team can not implement any secondment since March 2020. Also, COVID-19 affected all the project partners and their countries: many countries have introduced the travel restriction or travel bans, and Universities and companies closed their offices and labs so that no experimental work can be done since March 2020. Therefore, we requested a 12 months project extension, which has been approved by the EU funding body. Now the project new completion date is 31<sup>st</sup> Jan 2022.

## NEW PUBLICATIONS

Guipeng Chen, Yuwei Liu, Xinlin Qing, Mingyao Ma, and Zhengyu Lin, "Principle and Topology Derivation of Single Inductor Multi Input Multi Output DC DC Converters", IEEE Transactions on Industrial Electronics, vol. 68, no. 1, pp. 25-36, Jan. 2021 ([Zenodo download](#))

Fulong Li, Haoge Xu, and Zhengyu Lin, Multifunctional Control Design for Modular Plug-and-play Battery Storage in DC Microgrids, 29th IEEE International Symposium on Industrial Electronics (ISIE 2020), 17-19 June 2020, Delft, The Netherlands ([Zenodo download](#))

Nils H. van der Blij, et. al., Improved Power Flow Methods for DC Grids, 29th IEEE International Symposium on Industrial Electronics (ISIE 2020), 17-19 June 2020, Delft, The Netherlands ([Zenodo download](#))

T. Shi, H. Liu, F. Wang, S. Zhang, H. Guo and Z. Lin, Accurate Power Sharing of Hybrid Energy Storage System in DC Shipboard Power System Based on Quadratic Programming Algorithm, 2020 IEEE 29th International Symposium on Industrial Electronics (ISIE 2020), Delft, The Netherlands ([Zenodo download](#))

F. Li, C. Cañizares and Z. Lin, "Energy Management System for DC Microgrids Considering Battery Degradation," 2020 IEEE Power & Energy Society General Meeting (PESGM), Montreal, QC, 2020 ([Zenodo download](#))