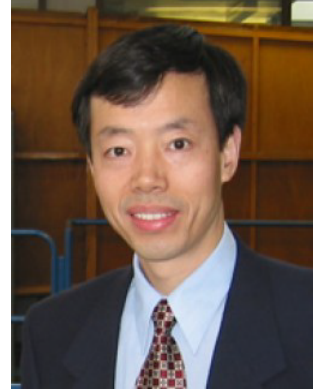


**Title** Inverse measurement of condensation heat transfer in microchannels implementation and validation

**Speaker** Prof. Huasheng Wang

Professor

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 Queen Mary University of London  
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**Date & Time** Thursday, October 17, 2019 1:00 p.m.

**Place** I<sup>2</sup>CNER hall, I<sup>2</sup>CNER Bldg.1, Ito Campus, Kyushu University

### Abstract

The talk will present details of the inverse method and its implementation and validation. In order to accurately measure the local heat transfer during condensation in microchannels, an inverse method was proposed and analysed based on pseudo temperature measurements in a two-dimensional heat conduction domain (Yu et al., 2014). To implement the proposed inverse method, a test rig has been built and a number of test sections have been designed and manufactured. Experimental data for heat transfer and pressure drop during single-phase flow of refrigerant R1233zd in microchannels were found to be in good agreement with empirical correlations. Measurements have been conducted for condensation of refrigerant R1233zd in microchannels, covering wide ranges of working conditions. Experimental data are compared with the theory and empirical correlations.

### About the Speaker

Professor Huasheng Wang is Professor of Thermofluids Engineering and Chair of the Division of Mechanical Engineering, Robotics and Design in the School of Engineering and Materials Science at Queen Mary University of London. He has many years research and teaching experience in thermofluids engineering, building services in the universities in China, Japan and the UK. His current research covers enhanced heat transfer, condensation, boiling, inverse method of heat transfer measurement, molecular dynamics and multi-scale simulations, advanced refrigeration technologies, sustainable thermal energy systems (e.g. solar thermal, heat pump, organic Rankine Cycle power plant).

**Host:** Professor Yasuyuki Takata

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