**Machine Learning for Battery Research Workshop**

Miles & Davis Room, St Peter's College, New Inn Hall Street, Oxford

13March 2020

**9:45 Arrival and Registration**

**10:15-10:20 Welcome**

10:20-10:50: Keynote speaker: Harry Hoster (Lancaster University) Tracking and rationalising battery health: a data science approach

10:50-11:10: Gábor Csányi (University of Cambridge) Accurate interatomic potentials for battery related materials

11:10-11:30: Arghya Bhowmik (Technical University of Denmark) Supervised and generative deep learning for inverse design of battery materials and interphases

**11:30-12:00 Coffee break**

12:00-12:20: Xuekun Lu (University College London) The machine learning segmentation technique on X-ray CT reconstructed battery electrode and 3D image-based modelling

12:20-12:40: Andrea Gayon Lombardo (Imperial College London) Digital-twins of electrode microstructure: Reconstructing 3D multi-phase materials using generative adversarial networks

**12:40-14:00 Lunch break**

14:00-14:20: Marc Duquesnoy (LRCS-France) Artificial intelligence investigation of NMC Cathode manufacturing parameters interdependencies

14:20-14:40: Ben Smith (University of Cambridge) TBC

**14:40-15:00 Coffee break**

15:00-15:20: Dhammika Widanalage (University of Warwick) Lithium ion battery ageing and prediction: Physics and data-driven approaches for life-time prediction

15:20-15:40: David Howey (University of Oxford) Machine learning for battery health diagnostics

**15:40 Wrap up**