

Dr Stephen Worrall

Lecturer in Chemistry at Aston University

Birmingham, , GB

Dr Worrall's research interests are focused upon the interface between metal-organic frameworks and electrochemistry.

Biography

Dr Stephen David Worrall MRSC was appointed as a Lecturer in Chemistry, based in the Chemical Engineering and Applied Chemistry department of School of Engineering and Applied Science, in August 2019. Prior to joining Aston University his research career had been based at the University of Manchester. Starting with an MChem in Chemistry under the supervision of Dr Andrew Horn in 2012 he then completed a PhD in Nanoscience in 2016 under the joint supervision of Professor Robert Dryfe and Dr Martin Atfield. This was followed by two post doctoral research positions. The first was in Atmospheric Chemistry, working for Professor Carl Percival and Professor Hugh Coe, as part of the APHH Beijing project. The second was in 2D material nanocomposites, working for Professor Sarah Haigh and Dr Steve Edmondson, as part of the DISCOVERER project. His primary research interests are focused upon the interface between metal-organic frameworks (MOF) and electrochemistry. 1) In situ investigations of the mechanisms of electrochemical MOF coating formation. 2) Computationally guided synthesis of new MOFs via electrochemical techniques. 3) Electrochemical applications of MOFs; catalysis, charge storage and data storage. He also has a supporting interest in developing coatings of two-dimensional materials; both for aerospace applications and for the synthesis of composite coatings with MOFs for electrochemical applications. Additionally he has an ongoing collaboration focused upon the measurement and interpretation of solid state vapour pressure data towards improving the modelling of aerosols in the atmosphere.

Areas of Expertise

Thin Films and Nanotechnology, Nanomaterials Synthesis, Material Characterization, Material Characteristics, Thin Film Deposition, Advanced Materials, X-ray Diffraction, SEM Analysis, Nanomaterials, Materials

Affiliations

Member of the Royal Society of Chemistry

Education

University of Manchester

Ph.D. Nanoscience

University of Manchester

M.Chem. Chemistry

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