3rd Meeting of the Energy Materials Discovery Characterisation and Application Group

EPSRC Platform Grant: EP/K0155401/1

10-11th Sept 2015

Thur 10th Sept

09.15 Welcome and Introduction

9.30 ***Keynote 1*** Dr. Martin Owen-Jones – ISIS, Rutherford Appleton Laboratory.

10.30 ***Session A*** ***New Materials***

10.30 Iona Ross: Symmetrical Cell Testing with Mg-Doped CuCrO2 Delafossites for Cathode Applications in Solid Oxide Fuel Cells

10.45 Julia Payne:

11.00 Chengsheng Ni: Organometallic Semiconductors for Solar Cell Applications

11.15 Hirepan Chávez Cárdenas: Search for Novel Oxide Ion Conductors: Lanthanum Titanate Based Compounds for Electrochemical Applications

11.30 **Coffee**

12.00 ***Session B*** ***Batteries***

12.00 Scott Lilley: Scaled Electricity Storage Using Lithium Sulfur Batteries

12.15 Yuan Wang: TiO_2 and its Nonocomposite as a High Power Anode Material

12.30 Kyriakos Giagloglou: The Identification and Down Selection of Suitable Cathode Materials for use in Next Generation Thermal Batteries

12.45 Da Li: New Advanced Electrode Material for Lithium-Ion Batteries

13.00 ***Lunch***

14.00 ***Keynote 2-*** Prof. Peter Slater - University of Birmingham

15.00 ***Session C*** ***Fuel Cells***

15.00 Jae-ha Myung: Durable High Performance Solid Oxide Fuel Cells Using Partial Oxidation of Methane

15.15 Jie Feng: Synsthesis and Characterisation of Ni-doped Lithium Iron Oxide as Anode for Direct Carbon Fuel Cells

15.30 Cristian Savaniu: Zirconia Based SOFC Electrolytes Prepared by a Net Shape Method

15.45 **Coffee**

16.15 ***Session D*** ***Photocatalysis***

16.15 Heather Greer: Nanotile Decorated ZnO Spheres Exposing the {0001} Planes and Enhanced Photocatalystic Properties

16.30 Marine Caux: Apparent activation Energy for Visible Light Hydrogen Evolution from Oxalic Acid and Methanol on Pt/gC_3N_4

16.45 Guan Zhang: Simultaneous Cellulose Conversion and Hydrogen Production from Pure Water Driven by Solar Photocatalysis

17.00 Sneh Jain: ETP Supported Project- A Case Study: Impurities in Hydrogen Streams

17.15 David Miller: Scios DualBeam for Energy Materials Research

End of Sessions Day 1

Refreshments

19.30 **Workshop Dinner**

Fri 11th September

09.00 Arrivals

09.15 ***Keynote 3*** Prof. Robert Tooze – SASOL Technology UK Ltd.

10 .15 ***Session E*** ***Catalysis 1***

10.15 Yukwon Jeon: Morphology Controlled Perovskite Materials for Various Catalytic Applications

10.30 Amane Abdoun: Redox-Thermal Stable Catalyst Oxide for Partial Oxidation Reforming PO_x

10.45 Ahmed Umar: Tailoring Structural and Surface Chemistry of Tricalcium Aluminate for Catalysis of Transesterification Reaction To Biodiesel

11.00 ***Coffee***

11.30 ***Session E*** ***Catalysis 2***

11.30 Gregor McInnes: Computational Study of Oxygen Storage and Migration in SOFC's

11.45 Despoina Papargyriou: Catalytic Properties of Modified $La_{0.75}Sr_{0.25}Cr_{0.5}Mn_{0.5}O_3$ and $La_{0.75}Sr_{0.25}Cr_{0.5}Fe_{0.5}O_3$ with Ni Nanoparticles for the Fuel Oxidation Layer of OTMs

12.00 Zac Dehaney-Steven: Oxygen Transport Membrane Development at St Andrews

12.15 Aida Fuente Cuesta: Carbon nanotubes (CNTs) Production by Catalytic Chemical Vapour Deposition (CCVD)

12.30 **Lunch**

13.30 ***Keynote 4*** Dr. Richard Dawson- Lancaster University

14.30 ***Session F*** ***Exsolution***

14.30 Dragos Neagu: Emergent Metal Nanoparticles for Energy Applications

14.45 Anushree Khandale: Development of Novel Electrodes for Alkaline Fuel Cell Applications

15.00 Donglai Mao: Surface Modification of $La_{0.4}Sr_{0.4}Ga_{0.1}Ti_{0.9}O_{3-\sigma}$ Perovskite with Pd Catalyst for SOFC Anodes

15.15 Jianing Hui: Interface study of Nickel on A-site Deficient Perovskite

15.30 ***Coffee***

16.00 ***Session G*** ***Impregnation***

16.00 Xiangling Yue: Manufacture and Optimisation of Impregnation Procedures into Porous Substrates

16.15 Georgios Triantafyllou : Surface and Interfacial Studies of Impregnationn Fuels Cell Materials

16.30 Robert Price: Optimisation of Screen Printed Porous $La_{0.20}Sr_{0.25}Ca_{0.45}TiO_3$ Anode Backbone Microstructures and Interaction with Impregnated Electrocatalyst Particles

16.45 C**oncluding remarks**