**The Molten Salts and Ionic Liquids Discussion Group (MSILDG)**
**Hybrid Christmas Meeting 2022**
**In person (Burlington House, London) and Online**
**Monday 19th December 2022**

09:00-10:00 Registration open

**Session 1: 10:00-11:10 GMT**
Session chair: Professor George Chen

10:00-10:10 Meeting setup and introduction by the MSILDG Chairman (Professor George Chen)
10:10-10:50 **The Inman Lecture (25 min talk + 15 min discussion – online presentation)**
Professor Xianbo Jin, Wuhan University, PRC
*"Electrochemical Solid-solid Conversion with Molten Electrolytes for the preparation of Some Key Elemental Materials"*
10:50-11:10 Contributed talk (15 min talk + 5 min discussion – online presentation)
Dr Saijun Xiao, Anhui University of Technology, PRC
*"Electrophoretic deposition and electro-codeposition in nanoparticle-containing molten inorganic salts"*

11:10-11:30 **Short break (with coffee, tea and biscuits)**

**Session 2: 11:30-12:50 GMT**
Session chair: Dr John Slattery

11:30-11:50 Contributed talk (15 min talk + 5 min discussion)
Dr Novina Malviya, QUILL, Queen's University Belfast, UK
*"Ionic liquid encapsulated biomimetic zinc-based catalyst for industrially-viable CO2 hydrolysis"*
11:50-12:10 Contributed talk (15 min talk + 5 min discussion)
Dr Ian J. McPherson, Loughborough University, UK
*"Molten Salts for Electrochemical Ammonia Synthesis"*
12:10-12:30 Contributed talk (15 min talk + 5 min discussion)
Deepthy Krishnan, Technical University of Denmark, Denmark
*"Ru metal nanoparticles in functionalized ionic liquids for olefin hydrogenation"*
12:30-12:50 Contributed talk (15 min talk + 5 min discussion)
Professor Rasmus Fehrmann, Technical University of Denmark, Denmark
*"The Chemistry of the Sulfuric Acid Catalyst"*

**Lunch break: 12:50-14:00 GMT**
The MSILDG AGM will take place during the lunch break (see below).

**MSILDG Annual General Meeting: 13:30-14:00 GMT**

**Session 2: 14:00-15:40 GMT**
Session chair: Professor Geir Martin Haarberg

14:00-14:40 **Keynote lecture (25 min talk + 15 min discussion)**
Professor Sheng Dai, Oak Ridge National Laboratory and University of Tennessee, USA
*"Tailoring Molten Salts and Ionic Liquids for Production and Separation of Critical Materials"*

14:40-15:00 Contributed talk (15 min talk + 5 min discussion)
Shannan Southwood-Samuel, University of South Wales, UK
*"Application of Benzimidazolium Based Ionic Liquids for Extraction of Cresol from Coke Oven Gas By-products"*

15:00-15:20 Contributed talk (15 min talk + 5 min discussion)
Sondre Iveland, Norwegian University of Life Sciences, Norway
*"Experimental Setup for Measuring Absorption Kinetics of Carbon Capture in Molten Salt"*

15:20-15:40 Contributed talk (15 min talk + 5 min discussion)
Amy Le Le Chen, University of Cambridge, UK
*"Calciothermic deoxygenation of powder and solid Ti materials in molten $CaCl_2$"*

15:40-16:10 **Short break (with coffee, tea and biscuits)**

**Session 3: 16:10-17:30 GMT**
Session chair: Dr Agi Brandt-Talbot

16:10-16:30 Contributed talk (15 min talk + 5 min discussion – online presentation)
Courtney M. Quinn, The University of Nottingham, UK
*"Synthesis and characterisation of non-stoichiometric diethylmethylammonium based protic ionic liquid electrolytes"*

16:30-16:50 Contributed talk (15 min talk + 5 min discussion)
Qiang Guo, The University of Nottingham, UK
*"The critical capacity of Li deposition on Cu foam electrodes in ionic liquids"*

16:50-17:10 Contributed talk (15 min talk + 5 min discussion – online presentation)
Mateen Mirza, University College London, UK
*"Electrochemical recovery of lithium-ion battery materials from molten salts: Microstructural characterisation using X-ray imaging"*

17:10-17:30 Contributed talk (15 min talk + 5 min discussion)
Professor Geir Martin Haarberg, Norwegian University of Science and Technology, Norway
*"Electrowinning of Aluminium and Carbon Footprint"*

17:30-19:00 **Post-meeting reception**

**Poster presentations**

N. O. Alblewi, University of Reading, UK *"X-ray spectroscopy of halozincate Lewis acids anions in the liquid phase"*

Aloisia King, Queen's University Belfast, UK "*Intrinsically Ionic liquid (IL) frustrated Lewis acid/base pairs and their innate ability for small molecule activation*"

Yuhan Zhang, University of Nottingham, UK "*Novel molten salt electrolysis process for efficient recovery of titanium from industrial wastes (MERTi)*"

Y. Takahashi, Norwegian University of Science and Technology (NTNU), Norway "*Cathodic Behaviour of Carbonate Ions in Molten CaCl2-NaCl-CaO*"

**Hybrid meeting organisation and etiquette**

Successful online or hybrid seminars require cooperation between all participants. Please see below for some important points regarding the organisation of the meeting.

- Online delegates should ensure that their microphones are muted at all times, except when invited to ask a question or join a discussion with the speaker by the session chair.
- If you have a question that you would like to ask the speaker, raise your hand in person or online please type this in to the "chat" function of GoToMeeting. This can be done at any time during talks or during the discussion. The session chair will then invite delegates to ask their questions during the discussion period after each talk. You should unmute your microphone and ask your question when invited to do so by the session chair.
- Please do not record or capture the talks or discussions.
- Speakers, as with all meetings, please keep to time. This will allow time for discussion after your talks, but it will also ensure that the meeting runs to time. This is particularly important for online/hybrid meetings where delegates may be joining from a range of time zones and may be outside of their normal working hours.