# Program

| 19th June 2023 | | |
|---|---|---|
| 12:00-13:00 | *Lunch* | |
| **Session A: Exsolution (Chair: Ziming Peng)** | | |
| **Time** | **Speaker** | **Title** |
| 13:00-13:05 | **John T. S. Irvine** | **Welcome and Opening Remarks** |
| 13:05-13:50 | **Dr. Andrea Eva Pascui (Keynote speaker)** | **The present and future of emission control catalysis – an industrial perspective** |
| 13:50-14:05 | Jair Gabriel Triana-Pequeno | Exsolution of nanoparticles from doped $LaAlO_3$ perovskite at Low Temperature for r-SOC electrode applications |
| 14:05-14:20 | SeoJin Kim | Characterisation of Ni nanoparticle exsolution in perovskite with different degree of orthorhombicity |
| 14:20-14:35 | Rahul Majee | Influence of Ga Co-doping in Titanate Perovskite Oxide to Promote Low-Temperature Exsolution |
| 14:35-14:50 | Andrea Veronese | Investigation of the Structure, Sintering and Reduction of some Cr-rich spinels |
| 14:50-15:05 | Bo Yu (New Member) | Exsolution of Ru Nanoparticles from $LaAlO_3$ structure for CO Oxidation |
| 15:05-15:20 | Mina Ardani (New Member) | Co-doped Lanthanum Aluminate-based catalysts for selective catalytic oxidation of $NH_3$ in diesel vehicle |
| 15:20-15:40 | *Coffee Break* | |
| **Session C: Photocatalysis (Chair: Bo Yu)** | | |
| 15:40-16:25 | **Prof. Peter Robertson (Keynote speaker)** | **Photoelectrochemical engineering** |
| 16:25-16:40 | Hong Zhang | Al/Nb Co-Doped $La_2Ti_2O_7$ as an Efficient Photocatalyst for $H_2$ Production |
| 16:40-16:55 | Nikoletta Gkoulemani | Cellulose–titania interactions, photocatalytic testing, and comparison with glucose |
| 16:55-17:10 | Yuan Liao | Co-doping $SrTi_{1-2x}Co_xCr_xO_{3-\delta}$ ($0.005 \leq x \leq 0.1$) Perovskite Photocatalysts for Hydrogen Production |
| **Special Lecture** | | |
| 17:10-17:25 | Paul Connor | Lab Management |
| 17:25-19:00 | *Free time* | |
| 19:00-21:00 | *Dinner* | |
| 21:00-22:00 | *Pub Quiz* | |

| 20th June 2023 | | |
|---|---|---|
| 7:30-9:00 | *Breakfast* | |
| **Session D: Fuel Cell I (Chair: Jair G. Triana-Pequeno)** | | |
| **Time** | **Speaker** | **Title** |
| 9:00-09:45 | **Dr. Vasileios Kyriakou (Keynote speaker)** | **Renewable Power-Fueled Cell Reactors for Chemical Energy Storage Transformations** |
| 9:45-10:00 | Nuoxi Zhang | $CO_2$ electrolysis through Mn substitution coupled with exsolution in $La_{0.3}Ca_{0.6}Ni_{0.05}Ti_{0.95}O_{3-\gamma}$ |
| 10:00-10:15 | Selda Ozkan | Lanthanum aluminate with exsolved Pt nanoparticles for oxygen reduction reaction in alkaline media |
| 10:15-10:30 | Shangshang Zuo | Exsolution and Electrodeposition Strategies for Enhancing the Electrocatalytic Activity of Ti-Based Perovskite Oxides in Oxygen and Hydrogen Evolution Reactions |
| 10:30-10:50 | *Coffee Break* | |
| 10:50-11:05 | Xinyu Liu | Waste to energy fuel cell development with lanthanum strontium calcium metal titanate anodes |
| 11:05-11:20 | Junmeng Jing | Highly Active and Stable $PrO_x$ Modified $Ba_{0.95}La_{0.05}Fe_{0.8}Zn_{0.2}O_{3-\delta}$-$BaZr_{0.1}Ce_{0.7}Y_{0.1}Yb_{0.1}O_{3-\delta}$ air electrode for Reversible Protonic Ceramic Cell |
| 11:20-11:35 | Kamil Nowicki | Impregnation with CGO for stability improvement in Ni/YSZ electrodes |
| 11:35-11:50 | Lihong Zhang | Study on oxygen ion basicity regulation and properties of solid oxide electrolysis cell perovskite cathode |
| 11:50-12:05 | Gavin Irvine | Conductivity of Salt Solutions in liquid, vapour, and supercritical states |
| 12:05-13:05 | *Lunch* | |
| **Session E: Fuel Cell II (Chair: Mina Ardani)** | | |
| 13:05-13:50 | **Prof. George Marnellos (Keynote speaker)** | **Remarkably active and stable Ni/$CeO_2$ nanorods for $CO_2$ methanation: Fundamental research to scaled up structured catalysts** |
| 13:50-14_05 | Huseyin Unsal | High temperature oxidation behaviour of bare and coated steel for the SOFC Cathode Electrode |
| 14:05-14:20 | Xuefa Xia | Extraction of Hydrogen from Hythan ($CH_4$+$H_2$) by an Electrochemical Hydrogen Pump |
| 14:20-14:35 | Shuoshuo Zhang | Conductivity Increase as a Result of the Disappearance of Short-Range Ordering in a Scandia-Zirconia Electrolyte |
| 14:35-14:50 | Haodong Wu | Tailoring LSCM Cathodes to Elevate Performance in High Temperature $CO_2$ conversion via Solid Oxide Electrolysis Cells |
| 14:50-15:10 | *Coffee Break* | |

| 20th June 2023 | | |
|---|---|---|
| **Session F: Battery I (Chair: SeoJin Kim)** | | |
| **Time** | **Speaker** | **Title** |
| 15:10-15:25 | Josin Jose | Tape casting for development of thermal batteries |
| 15:25-15:40 | Ioanna Marianna Pateli | Recycling and regeneration of NMC battery material |
| 15:40-15:55 | Mihkel Vestli | Garnet LLZO-based solid state battery prepared by tape-casting |
| 15:55-16:05 | Katy Bateman | Novel thermal batteries based on sodium chemistries |
| 16:05-16:20 | Sneha Daradmare (New Member) | Exploring Novel Approaches for Battery Research: Bridging Past Experience with Future Prospects |
| 16:20-16:35 | Zhi Xia (New Member) | 3D Electrode Design for High Areal Capacity Lithium-ion Batteries |
| 16:35-16:50 | Ziming Peng (New Member) | The Synthesis of NASICON electrolytes for Na all solid-state batteries |
| 16:50-17:05 | Demeke Fantaw Tegegne (New Member) | Development of High Temperature Na Batteries |
| 17:05-17:20 | Jiaxin Ding (New Member) | Electrochemical and Binder-effect Study of $Na_2Ti_3O_7$ in SIBs and Performance Improvement Attempt |
| 17:20-17:35 | Kashif Iqbal (New Member) | Ultrabatteries- bridging Between Supercapacitors and Batteries Based on Lithium Titanates ($Li_4Ti_5O_{12}$) and Lithium Titanates Ferrites ($Li_4Ti_5O_{12}/FeO_2$) |
| 17:35-19:00 | *Activity* | |
| 19:00-21:00 | *Dinner* | |
| 21:00-22:00 | *Free Time* | |

| 21st June 2023 | | |
|---|---|---|
| 7:30-9:00 | *Breakfast* | |
| **Session H: Battery II: Sodium Ion Battery (Chair: Nuoxi Zhang)** | | |
| **Time** | **Speaker** | **Title** |
| 9:00-09:45 | **Dr. Robert Armstrong (Keynote speaker)** | **Composite layered oxides for sodium-ion batteries** |
| 09:45-10:00 | Chinnasamy Murugesan | Role of in-situ formed buffer matrix in Sn-based negative electrode materials for Na-ion batteries |
| 10:00-10:15 | Chenchen Wang | Cu/Ti-Doped P2/P3 biphasic Cathode Material for Sodium-Ion Batteries |
| 10:15-10:45 | *Coffee Break + Group Photo* | |
| 10:45-11:00 | Cameron Bathgate | Scale-up of sodium-ion battery |
| 11:00-11:15 | Jiyu Tian | Pouch cell manufacture |
| 11:15-11:30 | Grant Stone | Optimising Processing of Energy Storage Materials |
| 11:30-11:45 | Mathew Irvine | Tin-hard carbon anodes for Na ion battery |
| 11:45-12:00 | **John T. S. Irvine** | **Concluding Remarks** |
| 12:00-13:00 | *Lunch* | |
| 13:00 | *Departure* | |