Poster Sessions:

Prof. Minhua Shao, Co-Chair of IMLB 2024, will coordinate with the Chairs of the Topic Sessions to select the Best Poster Awards.

Topic 1: Anodes

(17 June 2024 18:50 – 21:00)

Chairs: Quan Li, Biao Zhang

P01-001 Abstract ID 15
Controlled Dendrite Growth via Hybrid Conductive Coated Separator for Reinforced Lithium Metal Batteries
Jeanie Pearl Suba (Hanyang University)

P01-002 Abstract ID 17
Effect of hydrogenation and crystalline vs. amorphous structure on the electrochemical Na-transport/storage in Si
Ajay Kumar (IIT Bombay)

P01-003 Abstract ID 36
Quantification of Side Reactions and SEI Growth on Lithium Metal Anodes with Coulometric Titration Time Analysis
Burak Aktekin (Justus Liebig University Giessen)

P01-004 Abstract ID 47
Designing of Fe3O4 @rGO nanocomposite prepared by two steps sol-gel method as a high-performance anode for Lithium-ion batteries
Oubla M'hamed (Mohammed Vth University)

P01-005 Abstract ID 54
Kinetic regulation of anode/electrolyte interfacial reactions in lithium metal batteries
Xue-Qiang Zhang (Beijing Institute of Technology)

P01-006 Abstract ID 58
Lithiation and Delithiation Behavior of Li-Si Alloy Electrodes in Ionic-Liquid Electrolyte
Yasuhiro Domi (Tottori University)

P01-007 Abstract ID 61
Enhancing Lithiophilicity and Stability of Li Metal Batteries Through Tuned Porous Ni Scaffold and Interface Chemistry
Dong Park Lee (Gyeongsang National University)

P01-008 Abstract ID 69
Investigation of the Influence of Silicon Oxide Content on Electrolyte Degradation, Gas Evolution, and Thickness Change in Silicon Oxide/Graphite Composite Anodes for Li-Ion Cells Using Operando Techniques
Philipp Heugel (Fraunhofer Institute for Chemical Technology ICT)

P01-009 Abstract ID 73
A Mo-and-Fe-containing Polyoxometalate as Anode Materials for Lithium-ion Batteries
Shao-Chu Huang (National Tsing Hua University)

P01-010 Abstract ID 96
Facile Synthesis of Ag Nanoparticles-Decorated TiO2 Microspheres through Spray Pyrolysis Process as 3D host materials for stable lithium metal battery anode performances
Jae Hun Choi (Korea University)

P01-011 Abstract ID 99
Depth Heterogeneity in Graphite-Based Electrodes Unveiled by Operando Microscopy: Insights for Enhanced Anode Design in High-Rate Energy Storage
Juyoung Kim (Ulsan National Institute of Science and Technology)

P01-012 Abstract ID 107
Investigating the Film-Forming Effect of Vinyl Ethylene Carbonate in High-Voltage Lithium-Ion Batteries by In-Situ Advanced Raman Spectroscopy
Felix Pfeiffer (Forschungszentrum Jülich GmbH)

P01-013 Abstract ID 121
Nanospinbar-Enhanced Ionic Movement in Colloidal Electrolytes for Dendrite-Free Electrodeposition
Minhong Lim (DGIST)

P01-014 Abstract ID 122
Revisiting the low-temperature “stablization process” for starch-derived hard carbon anodes
Yuke Shen (Shanghai Jiao Tong University)

P01-015 Abstract ID 144
Multilayer Silicene Nanosheets Derived from a Recycling Process Using End-of-Life Solar Cells Producing a Silicene/Graphite Composite for Anodes in Lithium-Ion Batteries
Yutthanakon Kanaphan (Khon Kaen University)

P01-016 Abstract ID 150
A substitution study in lithium titanium phosphite for better electrochemical properties as anode material for Li-ion battery
Hassna Belhaj (Mohammed Vth University)

P01-017 Abstract ID 152
Magnesiothermic Reduction Improved Route to High-yield Synthesis of Interconnected Porous Si@C Networks Anode of Lithium Ions Batteries
Qian Liu (Shanghai Jiao Tong University)

P01-018 Abstract ID 163
(In-situ) electropolymerization of p-Sulfonated polyallyl Phenyl Ether Coated Graphite Electrode for Lithium Ion Battery
Kexing Cai (Shanghai Jiaotong University)

P01-019 Abstract ID 182
Enhancing Stability of Li Metal Electrodes at High Rates through Crystallographic Orientation Control
Yao Gao (Chinese University of Hong Kong)

P01-020 Abstract ID 184
A polyimine aerogel separator with electron cloud design to boost Li-ion transport for stable Li metal batteries
Luoyi Ding (Shanghai Jiao Tong University)

P01-021 Abstract ID 209 (withdrawn)
Mechanistic insights into the solvent assisted thermal regeneration of spent graphite and its influence on second life electrochemistry
Ghosh (Indian Institute of Technology Hyderabad)

P01-022 Abstract ID 212
Macroscale inhomogeneity in electrochemical lithium-metal plating triggered by electrolyte-dependent gas phase evolution
Kyoungoh Kim (Seoul National University)

P01-023 Abstract ID 220
Clarifying the Temperature-Dependent Lithium Deposition / Stripping Process and the Evolution of Inactive Li in Lithium Metal Batteries
Mingming Tao (Xiamen university)

P01-024 Abstract ID 222
SWCNTs Based Conductive Networks Enable Stable Operation of Silicon Microparticle Anodes
DONG LIU (Beijing University of Chemical Technology)

P01-025 Abstract ID 229
Durable Lithium Metal Anodes Enabled by Interfacial Layers Based on Mechanically Interlocked Networks Capable of Energy Dissipation
Min Hong (Quzhou Institute of Power Battery and Grid Energy Storage)

P01-026 Abstract ID 246
Design and Electrochemistry of Highly Stable Metal-Li Anodes
Juan Zhang (Chinese Academy of Sciences)

P01-027 Abstract ID 286
Novel silicon/carbon composites with hollow cubic-box structure for highly Li+ storage
Wenhua Shi (Wuhan University of Technology)

P01-028 Abstract ID 287
Nanoarchitecture of multilayer graphene-electrolyte interface in electrochemical environment
Yue Chen (Fujian Normal University)

P01-029 Abstract ID 302
Mechanism of Additives on the Uniformity of Lithium Intercalation in Graphite: Insights from In Situ NMR and XRD Studies
Hongxin Lin (Xiamen University)

P01-030 Abstract ID 307
Optimizes Anode deposition interface through metal sulfide modified gel electrolyte For lithium-sulfur battery
Chenran Hao (Shanghai Jiao Tong University)

P01-031 Abstract ID 322
Uncovering the Li-ion kinetics between SEI and Li-metal anode during formation cycling
Shengnan Zhang (Delft University of Technology)

P01-032 Abstract ID 324
Silicon monoxide - silicon oxycarbide composite as a high-performance anode material for lithium-ion batteries
Manoj Muraleedharan Pillai (University of Eastern Finland)

P01-033 Abstract ID 326
Regulating the Zn Electrode/Electrolyte Interface Toward High Stability-- Insights from the Resting Time Impact on Zn Electrode Performance
Zhijun Cai (The Chinese University of Hong Kong)

P01-034 Abstract ID 327
Impact of the dissolved transition metals to graphite anode in Li-ion battery
Panyawee Bunyanidhi (Dalhousie University)

P01-035 Abstract ID 328
Deciphering Electrolyte Dominated Na+ Storage Mechanisms in Hard Carbon Anodes for Sodium-Ion Batteries
Guiyu Liu (Southern University of Science and Technology)

P01-036 Abstract ID 330
Developing ether-based electrolytes for high-performance ternary lithium metal batteries operating in harsh conditions
Zhijie Wang (The Hong Kong Polytechnic University)

P01-037 Abstract ID 331
Enhanced Lithium Affinity by Bismuth-Infused Framework for Advanced Lithium Metal Batteries
Joo Hyeong Suh (Kyung Hee University)

P01-038 Abstract ID 332
Surface Modification with Co2P Nanoparticles onto Natural Graphite Anode for Fast-Charging Lithium-Ion Batteries
Won Ung Jeong (Kyung Hee University)

P01-039 Abstract ID 334
Graphite Surface Modification with TiC Nanocrystal for Fast-Charging Lithium-Ion Batteries
Dong Ki Kim (Kyung Hee University)

P01-040 Abstract ID 350
In-situ Integration of Flame Retardant Quasi-solid Gel Polymer Electrolyte with Si-based Anode for High Energy Li-ion Batteries
Qian Liu (Shanghai Jiao Tong University)

P01-041 Abstract ID 357
Li13Si4 nanoparticles coated with the LiF-rich artificial SEI: Air-stable pre-lithiation additives
LIU YINAN (University of Macau)

P01-042 Abstract ID 395
Investigating the Evolution of Electronic Structure in Anode Materials for Lithium-Ion Batteries using X-ray Raman Scattering
Chih-Wei Hu (National Synchrotron Radiation Research Center)

P01-043 Abstract ID 397
Mechanochemistry Induced Interface Modifications of Lithium Metal Anodes
Zhibin Wu (Central South University)

P01-044 Abstract ID 410
Lithium Metal Anode Using Polyacrylonitrile Supported Metal Nitrates as an Additive in Carbonate-based Electrolyte
Hyeonmuk Kang (Korea Advanced Institute of Science and Technology)

P01-045 Abstract ID 416
Hydrodynamic Jet Cavitation to Process Natural Graphite for use in Ultra-fast Charging LFP // Graphite Pouch Cells
Benjamin Robinson (University of Warwick)

P01-046 Abstract ID 421
Metal fluoride coating for improving cycling performance of silicon microparticles for lithium-ion batteries anode
Woosuk Kang (Pohang University of Science and Technology)

P01-047 Abstract ID 426
Role of nano-level heterogeneity on the (de)lithiation performance of SiGe-Cu composite anodes
Sajid Alvi (Chalmers University of Technology)

P01-048 Abstract ID 481
Exploring the direct causes of aluminum anode failure
Zhe Li (Chinese university of Hong Kong)

P01-049 Abstract ID 483
Advanced Electron Microscopy for Unraveling the Secrets of Si-Based Anodes
Ruohan Yu (Wuhan University of Technology)

P01-050 Abstract ID 500
Non-destructive Sustainable Lithium Supplement Strategy Enabled by Ultrathin Lithium Alloy Foils
Xinlong Chen (Tongji University)

P01-051 Abstract ID 501
Self-Bonding Liquid Metal Three-dimensional Conductive Networks for Highly Reversible Silicon Oxide Anodes
Wenyan Chen (Southern University of Science and Technology)

P01-052 Abstract ID 562
Hybrid Carbon Bilayer Anode for Improved Ion Transport and Reaction Stability for Li ion Battery
Seungmin Hyun (Korea Institute of Machinery and Materials)

P01-053 Abstract ID 592
Regulating Electric Double Layer Dynamics for Robust SEI in Fast-Charging Graphite Anodes
Jaeyeon Bang (Graduate Institute of Ferrous & Energy Materials Technology)

P01-054 Abstract ID 574
Improvement of Cycling Stability in Anode-Free Lithium Metal Batteries by Use of a Cross-Linked Protective Layer Containing AgNO3 Additive
A-Hyeon Ban (Hanyang University)

P01-056 Abstract ID 593
Data-driven Cycle Life Prediction of Lithium Metal based Rechargeable Battery based on Discharge/Charge capacity and Relaxation Features
Qianli Si (Research Center for Energy and Environmental Materials)

P01-057 Abstract ID 598
Enhancing the Fast Charging Capability of Lithium-Ion Batteries with Sulfated Zirconia Oxide Coated Graphite
Hae-Ri Yang (Seoul National University)

P01-058 Abstract ID 612
Low-Donor-Number Solvents Enable One-step Solid Electrolyte Interphase Formation and Effective Contact Prelithiation
Shuhang Feng (Institute of Physics, CAS)

P01-059 Abstract ID 614
Physical Limitation of High Mass Loading and Electrode density with Silicon-Graphite Blending Anode
Hyosang An (Changwon National University)

P01-060 Abstract ID 619
Tailoring the Mechanical Properties of Artificial Solid Electrolyte Interphase (SEI) for Enhanced Performance of Lithium Metal Anodes
Henan Wang (Osaka University)

P01-061 Abstract ID 637
Scale-up Synthesis of Porous Silicon and Design of High Energy Lithium Battery Anodes
JEONGWOO BAE (Dong-A University)

P01-062 Abstract ID 638
Synthesis of Porous Silicon Particles using Dynamic Magnesiothermic Reduction of Various Silica for Lithium Battery Anodes
CHANSIK SON (Dong-A university)

P01-063 Abstract ID 642
Diffusion enhancement for lithium metal anode interface by applying external physical field
Yunyi Chen (The Hong Kong University of Science and Technology)

P01-064 Abstract ID 643
Origin of dendrite-free lithium deposition in concentrated electrolytes
Zixu He (University of Science and Technology of China)

P01-065 Abstract ID 651
Unleashing high-rate long cycle performance of Li metal anodes through phosphorus-decorated separators and phosphorus-based surface chemistry
Feng Lang (The Chinese University of Hong Kong)

P01-066 Abstract ID 662
Lithiophilic Protective Layer for Uniform Electrodeposition of Lithium Metal
Ji-Wan Kim (Hanyang University)

P01-067 Abstract ID 670
Realizing Advanced Potassium Batteries by Designing Ether-Based Electrolytes
Danni WANG (The Hong Kong Polytechnic University)

P01-068 Abstract ID 679
Revealing the role of crystal orientation of substrates for stable lithium metal anodes
JINXIA LIN (Xiamen University)

P01-069 Abstract ID 684
A Formula to Customize Cathode Binder for Lithium Ion Battery
Li Deng (Xiamen University)

P01-070 Abstract ID 693
Vacuum thermal evaporation in battery research: insights and case studies.
Aleksei Kolesnikov (MEET Battery Research Center)

P01-071 Abstract ID 716
Analysis of reaction distribution of graphite anode of liquid-based lithium-ion secondary batteries using operando Computed Tomography and elucidation of Li deposition behavior
Hongjie Yuan (KRI)

P01-072 Abstract ID 719
Interface engineering of Si-based anodes with fluorinated binder enabling lean-additive lithium-ion batteries
Dong-Yeob Han (Pohang University of Science and Technology)

P01-073 Abstract ID 721
Multicomponent protective layers for All-Solid-State Li Metal Batteries
Haechannara Lim (Yonsei University)

P01-074 Abstract ID 733
Soft X-ray Absorption Spectroscopy of Li Metal Anode Surface Film after Plating and Stripping at High Temperature
Yutaro Goto (Ritsumeikan University)

P01-075 Abstract ID 736
Designing Electrolytes with Steric Hindrance and Film-Forming Booster for High-Voltage Potassium Metal Batteries
Zhenlu Yu (The Hong Kong Polytechnic University)

P01-076 Abstract ID 750
Designing Interfaces with Tuned Na Nucleation and Transport for Anode-free Sodium Metal Batteries
SHI Jie (The Hong Kong Polytechnic University)

01-077 Abstract ID 760
Enhancing Electrochemical Performance of Carbon-Coated Silicon Monoxide Negative Electrodes via Electrode Composition and Structure Optimization
Sang Jun Yeo (Tech University of Korea)

P01-078 Abstract ID 768
Atomic-scale modelling and design of metal anodes for next-generation lithium batteries
Qiong Cai (University of Surrey)

P01-079 Abstract ID 775
In Situ Construction of Robust Conductive Polymer Network for Enhanced SiOx Electrode Performance
Lu Wang (Peking University Shenzhen Graduate School)

P01-080 Abstract ID 780
In-depth Study of Battery Degradation Using Neutron Analysis Techniques
Kun Qian (Great Bay University)

P01-081 Abstract ID 788
Structure Evolution and Interphase Modification of Si-based Anode
Shiming Chen (Peking University)

P01-082 Abstract ID 804
Multi-physical factor in enabling homogeneous dendrite growth for alkali metal batteries
Gwanghyeon Choi (Kyung Hee University)

P01-083 Abstract ID 810
High-Throughput Screening in designing alloys for homogeneous Li metal growth
Seungun Shin (Kyung Hee University)

P01-084 Abstract ID 836
Cyano-based Binder Enables High Dopant Tolerance in Biomass-Derived Hard Carbons
Xinyu Qiao (Peking University)

P01-085 Abstract ID 837
Biomass-Derived Hard Carbon with Reversible Sodium Storage Capacity over 400 mAh/g
Zirui Lou (Peking University)

P01-086 Abstract ID 847
Effect of Phosphorus Doping on TiO2 Anode: Insights from Operando measurements and Computational Modeling
NABIL EL HALYA (Mohammed VI Polytechnic University)

P01-087 Abstract ID 848
Sputtered Silicon based Anodes as A Kinetically Improved and Highly Stable Anode Material For Li-Ion Batteries
Ghizlane ELOMARI (Mohammed VI polytechnic University)

Topic 2: Cathodes

(17 June 2024 18:50 – 21:00)

Chairs: Qi Liu, Linsen Li, Dong Luo

P02-001 Abstract ID 13
New cathode water-based binders replacing PVDF in Lithium-ion Batteries
Eunbin Lim (Hanyang University)

P02-002 Abstract ID 16 (withdrawn)
Fluorine-Free Poly(ionic Liquid)s Binders for the Aqueous Processing of High-Voltage NMC811 Cathodes
Ana Clara Rolandi (Deakin University)

P02-003 Abstract ID 51
Enhancing High Voltage Cyclic Stability in Li-ion Battery Cathodes through Modified'Layered' Li-Transition Metal Oxides with Low Cobalt Content
Arpita Das (Indian Institute of Technology Bombay)

P02-004 Abstract ID 53 (withdrawn)
Structural and electrochemical behavior of Li/Mn-rich cathode materials Li1.2Mn0.6Ni0.1Co0.1O2 doped by Molybdenum element
Nitin Srivastava (Shri Chitragupt (P. G.) College)

P02-005 Abstract ID 62
Effect of Inorganic Grain Growth Promoter on the Electrochemical Performance of Cobalt-less Layered Cathode Material
Ji-Yong Eom (Korea Automotive Technology Institute)

P02-006 Abstract ID 76
Design and performance study of aqueous halogen cathode batteries
Yan Huang (Harbin Institute of Technology)

P02-007 Abstract ID 92
Eliminating Interfacial O-Involving Degradation in Li-Rich Mn-Based Cathodes for All-Solid-State Lithium Batteries
Liang Shen (Tsinghua University)

P02-008 Abstract ID 100
Elucidating structural degradation induced by strain propagation in single-crystal Li-rich layered oxides
Jeongwoo Seo (Ulsan National Institute of Science and Technology)

P02-009 Abstract ID 102
Oxygen-Ligands Regulations Inducing Reversible and Fast Bulk Oxygen Redox for Sodium-ion Battery Cathodes
Xinyin Cai (Shanghai Jiao Tong University)

P02-010 Abstract ID 114
Lithium-rich layered oxides for high energy lithium-ions batteries
Haijun Yu (Beijing University of Technology)

P02-011 Abstract ID 135
Designing 3D Porous Organic Polymers for High-Performance Organic Battery Cathodes
Bei-Chun Liao (National Sun Yat-sen University)

P02-012 Abstract ID 147
Gradient-porous-structured Ni-rich layered oxide cathodes with exceptional specific energy and cycle stability
Zhiyuan Li (Shanghai Jiaotong University)

P02-013 Abstract ID 157
Advancements in Atomic Layer Deposition and Vapor Phase Infiltration for Lithium Batteries
Jin Xie (ShanghaiTech University)

P02-014 Abstract ID 161
Multifunctional modification strategy enhancing cycling performance of Li-rich cathodes for Li-ion batteries
Liang Yin (Institute of Physics, CAS)

P02-015 Abstract ID 172
Rechargeable Lithium-Chlorine Batteries
Wei Chen (University of Science and Technology of China)

P02-016 Abstract ID 201
Exploration of High Heating Rate Solid-State Reaction of NaCrO2 in sodium ion batteries
Jingzhuo Wu (Shanghai Jiao Tong University)

P02-017 Abstract ID 203
Single O Hole Enables High Cycling Performance by Removing Thermodynamic and Kinetic Limitations
Yande Li (Shanghai Institute of Microsystem and Information Technology)

P02-018 Abstract ID 205
Fence-type Molecular Electrocatalysts for High-Performance Lithium-Sulfur Batteries
Zhihua Wang (School of Materials Science and Engineering/Herbert Gleiter Institute of Nanoscience)

P02-019 Abstract ID 210 (Withdrawn)
Transforming Residual Lithium Compounds on LiNi0.8Mn0.1Co0.1O2 Surface into a Li-Mn-P-O-based Composite Coating for Multifaceted Improvements
Jyotirekha Dutta (IIT Hyderabad)

P02-020 Abstract ID 224
Controllable Synthesis and In Situ Study of Cathode Materials for Li-Ion Batteries
Mingjian Zhang (The Chinese University of Hong Kong - Shenzhen)

P02-021 Abstract ID 226 (Withdrawn)
Assessment of the effect of soft carbon integration on the electrochemical performances of High-voltage LNMO cathode for Lithium-ion batteries
Subhajit Bhowmik (IIT Hyderabad)

P02-022 Abstract ID 227(Withdrawn)
Na3V2(PO4)3/C as a cathode material for low-temperature operated Lithium-ion Batteries
Arailym Nurpeissova (National Laboratory Astana)

P02-023 Abstract ID 241
Recycled NMC and NCA: Effects of Metal Ions Released to the Electrolyte
Petr Novak (Technische Universität Braunschweig)

P02-024 Abstract ID 247
Understanding Structural-Property Relationship in Layered Oxide Cathodes Using Ex-Situ and Operando Synchrotron/ Neutron-Based Techniques
Yameng Fan (University of Wollongong)

P02-025 Abstract ID 259
Mn-based Disordered Rocksalt Materials with High Energy Density
Han-Ming Hau (The University of California, Berkeley)

P02-026 Abstract ID 263
Investigation and Optimization of Li-Rich Layered Oxide Cathodes with High-Throughput Computations and Beyond
Ziliang Wang (Northwestern University)

P02-027 Abstract ID 265
In Situ Formed Amorphous Bismuth Sulfide Cathodes with a Self-Controlled Conversion Storage Mechanism for High Performance Hybrid Ion Batteries
Wen Wen (Shanghai Institute of Applied Physics)

P02-028 Abstract ID 279
A Li-rich Cathode with Long Cycle Life and Low Voltage Decay by Element Composition Regulation and Surface Treatment
Kun Zhou (Institute of Physics)

P02-029 Abstract ID 288
Demystifying Pyrolysis Chemistry for Polyanionic Cathode in Ultrafast-Charging Sodium-ion Batteries
Yujin Li (Central South University)

P02-030 Abstract ID 289
A Layered Li-Mn-O Based Cathode Material for Lithium-Ion Batteries with Stabilized Oxygen Redox
Zhansaule Bagindyk (Nazarbayev University)

P02-031 Abstract ID 292
Beyond Capacity: Unveiling the Superiority of O6-Type Lithium-Rich Layered Oxide as a Positive Electrode Material with Controlled Transition Metal Dynamics
Guanlan ZHAO (Institut de Chimie de la Matière Condensée de Bordeaux)

P02-032 Abstract ID 294
Unlocking the Full Capacity of Ni-Rich Layered Oxide Cathodes: Addressing Lithium Site Defects for Enhanced Diffusion and Stability
Aleksandr Kondrakov (BASF SE)

P02-033 Abstract ID 309
Maximizing the energy density of olivine-structured cathodes: Impact of synthesis method and conditions on electrochemical performance
Assylzat Aishova (Dalhousie University)

P02-034 Abstract ID 315
Beyond SEM-EDS Elemental Mapping: Phase Distribution Analysis of NMC811 for Detecting Ni-Variation and Impurities
Chengge Jiao (Thermofisher Scientific)

P02-035 Abstract ID 321
Multi-scale defect regulation of cobalt-free layered oxides for high-energy and long-lasting cathodes
Kun-hee Ko (Seoul National University)

P02-036 Abstract ID 329
Phytate Lithium Additive Stabilizes LiCoO2 to 4.6 V
Fangchang Zhang (Southern University of Science and Technology)

P02-037 Abstract ID 333
Microstructural Engineering for Enhance Structure Stability through Fe Substitution in Li6CoO4 Sacrificial Cathodes
Dongil Kim (Kyung Hee University)

P02-038 Abstract ID 335
Enhanced Surface Stability of Li2NiO2 Cathode Additive by Amorphous Niobium Oxy-carbide Coating Layer for Lithium-Ion Batteries
Jaewoo Jung (Kyung Hee University)

P02-039 Abstract ID 336
Tailored Crystallinity of LiTaO3 Coating Layer for Single-Crystalline Ni-Rich Cathodes in All-Solid-State Batteries
Yoojin Hong (Kyung Hee University)

P02-040 Abstract ID 337
Understanding Capacity Degradation in Sulfurized Polyacrylonitrile (SPAN) Electrodes: Insights from Transmission Electron Microscopy
Jiong Ding (Osaka Metropolitan University)

P02-041 Abstract ID 341
Decoupling the Capacity Fading in Ni-rich Layered Materials during High-Temperature Cycling in the Full-Cell System
Seongeun Lee (Sungkyunkwan University)

P02-042 Abstract ID 342
Improving rate capability and cyclability of Co-free and high-voltage LiNi0.5Mn1.5O4 cathode material via morphology modification by the co-precipitation method.
Mohammadreza Mahdigholi (University of Tehran)

P02-043 Abstract ID 344
Understanding sulphur-redox in Li-ion batteries cathodes in the model material Li2FeS2
Sofia De Sousa Coutinho (University of Oxford)

P02-044 Abstract ID 345
Hybrid supercapacitors using metal-organic framework derived compounds
Jiahuan Luo (Anyang Institude of Technology)

P02-045 Abstract ID 354
Multi-Scale Microstructure Tuning for Enhanced Electrochemical Stability in Ultra-High-Nickel Oxide Cathodes
Xiaoqiao Li (Shanghai Jiao Tong University)

P02-046 Abstract ID 365
Asymmetric Charge Distribution of Active Centers in Small Molecule Quinone Cathode Boosts High-Energy and High-Rate Aqueous Zinc-Organic Batteries
Cuicui Li (City University of Hong Kong)

P02-047 Abstract ID 377
Activation and Stabilization of Solid-State-Oxygen Redox in Lithium-Superrich Iron Oxide Cathodes
Hiroaki Kobayashi (Hokkaido University)

P02-048 Abstract ID 387
Alternative chelating agent of co-precipitation for NCM precursor : A study on ammonia free co-precipitation
Shin Park (POSTECH)

P02-049 Abstract ID 390
Modifying Electrochemical Characteristics of Lithium Cobalt Oxide via Multivalent Cation Doping for Lithium-Ion Batteries
Madhusudana Koratikere Srinivasa (Pusan National University)

P02-050 Abstract ID 394
Nb Enabled High-Packing Density and Ultra-high-Ni Layered Cathode Materials for Lithium-Ion Batteries
Liubin Ben (songshan lake materials laboratory)

P02-051 Abstract ID 404
Enhanced Lithium-Sulfur Battery Performance via a Hierarchical Nanoreactor with Integrated Adsorption and Catalytic Sites
Ban Fei (The Hong Kong Polytechnic University)

P02-052 Abstract ID 407
High performance cobalt-free high-nickel cathode materials in lithium-ion batteries realized by homogeneous zirconium doping
Jiwoong Oh (POSTECH)

P02-053 Abstract ID 409
Li2SO4 coating of Co-Free, Li-Rich Layered Oxide Cathode for Improving Electrochemical Performance
Jung Hyeon Moon (KAIST)

P02-054 Abstract ID 414
Visualisation of tetrahedral Li in the alkali layers of Li-rich layered oxides
Weixin Song (University of Oxford)

P02-055 Abstract ID 417
Unveiling Ultra-Fast Lithium Diffusion in LIB Cathodes: Study from Positron Annihilation Spectroscopy and Density Functional Theory
Meiying ZHENG (Politecnico di Milano)

P02-056 Abstract ID 428
The Effect of Cyclic Ageing on the Crystallographic Structure of NCM Cathodes and Graphite Anodes in commercial 21700 Li-Ion Batteries Investigated with Operando Neutron Diffraction
Thien An Pham (Technical University of Munich)

P02-057 Abstract ID 431
Poly(1,4-anthraquinone) as an organic electrode material: Interplay of the electronic and structural properties due to the unusual lone-pair-π conjugation
Xiaotong Zhang (Technical University of Denmark)

P02-058 Abstract ID 434
Studies on Voltage Decay Mechanism and Modification of Lithium-rich Manganese-based Cathode Materials
Xingpeng Cai (Lanzhou University of Technology)

P02-059 Abstract ID 439
Exploring Complex Reaction Mechanisms of Electrolyte Decomposition in Large-Scale Ni-Rich Lithium-Ion Battery Cells
Montree Sawangphruk (Vidyasirimedhi Institute of Science and Technology)

P02-060 Abstract ID 469
A low energy consumption segmented calcination strategy for improved cycling performance of lithium-rich manganese-based cathode materials
Zihao Zheng (Nanjing University of Science and Technology)

P02-061 Abstract ID 482
New insight into bulk structural degradation of high-voltage LiCoO2 at 4.55 V
Dongdong Xiao (Institute of Physics, CAS)

P02-062 Abstract ID 495
Re-assessing the suitability of MnO2 as cathode for rechargeable lithium-ion batteries
Chia Ching Lin (National Institute for Materials Science)

P02-063 Abstract ID 506
Design principles for of structurally robust lithium-rich layered oxides for high-energy and long-lasting cathodes
Ho-young Jang (Seoul National University)

P02-064 Abstract ID 516
Functional doped and coating for achieving high-rate, long-cycle, nickel-rich cathode materials
Yang Liu (School of Energy Power and Mechanical Engineering)

P02-065 Abstract ID 519
Multiscale studies on the particle and electrode level behaviors of high energy cathode with morphological characterization and theoretical simulation
Xuelong Wang (Institute of Physics, CAS)

P02-066 Abstract ID 522
Pre-installed surface strain enabled high nickel cathode materials for long-lived cycling performance
QINGSONG WENG (The Hong Kong Polytechnic University/University of Cambridge/Songshan Lake Materials Laboratory)

P02-067 Abstract ID 525
Orientation-control in NMC 811 thin films for interface analysis
Han Xue (MESA+ Institute for Nanotechnology, University of Twente)

P02-068 Abstract ID 526
Surface Optimizations Stabilize LiCoO2 upon high-temperature procedure
Zijian Li (Peking University Shenzhen Graduate School)

P02-069 Abstract ID 527
Aqueous synthesis and optimization of LiMnxFe1-xPO4
Pengfei Xu (Peking University)

P02-070 Abstract ID 531
Development of Fluoride-Based Cathode Coating Materials for High-Voltage Lithium Ion Batteries
Kenta Nakanishi (Hokkaido University)

P02-071 Abstract ID 541
Breaking Barriers in LNMO Battery Commercialization
Piotr Jankowski (Topsoe Battery Materials)

P02-072 Abstract ID 552
Anti-siting for Stabilizing Structure and Modulating Cationic/Anionic Redox Reactions
Luyao Wang (Institute of Physics, CAS)

P02-073 Abstract ID 563
In-situ formed fluoride-coating for LiCoO2 cathodes to enable high-voltage solid-state batteries
Feng Jin (Norges Teknisk-naturvitenskapelige Universitet)

P02-074 Abstract ID 577
Enhancing Fast-Charging Performance in Ni-rich Cathode Materials via Nb Doping Assisted Particle Structure Optimization
RAO Tian (City University of Hong Kong)

P02-075 Abstract ID 580
Air-Sensitivity Study on LiNiO2 Layered Cathode Materials by Using Ab-Initio Molecular Dynamics Simulations
Xianqi Xu (Peking University Shenzhen Graduate School)

P02-076 Abstract ID 586
Highly active-material-concentrated cathodes of nickel and cobalt-free cation-disordered rock-salts for Li-ion batteries
Dong-Hwa Seo (Korea Advanced Institute of Science and Technology)

P02-077 Abstract ID 588
Elastic Mechanics Study of Layered Li(NixMnyCoz)O2 Cathode Materials
Jiahua Liu (Peking University Shenzhen Graduate School)

P02-078 Abstract ID 596
Porous metallic structures: Alternative oxygen cathodes for metal-air batteries
Patjaree Aukarasereenont (CSIRO)

P02-079 Abstract ID 602
Multi-functional modifications on lithium-rich layered cathode materials with improved performance
Tongen Lin (The University of Queensland)

P02-080 Abstract ID 613
Revealing the structural origin of voltage hysteresis in Li-rich layered cathodes
Haoyu XUE (Peking University)

P02-081 Abstract ID 621
The effect of carbon nanotube coating on single-crystalline Ni-rich cathode for high energy lithium-ion batteries
Jaeho Kim (Sungkyunkwan University)

P02-082 Abstract ID 627
Mitigating Structural Collapse of LiNiO2 Cathode by Introducing Sb for Primary Particle Morphology Modulation and Elemental Doping
Xinyue Zhang (Institute for Applied Materials (IAM))

P02-083 Abstract ID 631
Thick cathode design tactics through the carbon nanotubes and solvent-free process for high-energy lithium-ion batteries
Seong Jung Heo (Sungkyunkwan University)

P02-084 Abstract ID 635
Revealing surface-like diffusion of fast ions in framework energy materials
Jingxi Zhang (State Key Lab of New Ceramics and Fine Processing)

P02-085 Abstract ID 639
Exploring the Mass Transport Dynamics of Lignin-Based Li-ion Batteries
Odne S. Burheim (Norwegian University of Science and Technology)

P02-086 Abstract ID 644
Stabilizing Crystal Framework of Overlithiated Li1+xMn2O4 Cathode by Hetero-interfacial Epitaxial Strain for High-Performance Microbatteries
Jie Zheng (University of Twente)

P02-087 Abstract ID 652
Rare earth element doping suppresses Li/Ni disordering in LiNiO2
Guangyin Wu (Peking University)

P02-088 Abstract ID 665
Probing the Structural Complexities in Lithium-Rich Cation-Disordered Oxide Materials
Sichen Jiao (Institute of Physics, CAS)

P02-089 Abstract ID 666
Stabilizing the Surface of Li-rich Mn-based Oxide Cathode Materials with the Surface Sol-gel Method
Haitao Gu (Shanghai Institute of Space Power Sources)

P02-090 Abstract ID 669
Elucidating lithium-ion diffusion mechanism of cation-disordered rocksalt cathodes
Byungwook Kang (Seoul National University)

P02-091 Abstract ID 671
Tuning Surface Chemistry to Reduce the Step-like Degradation of LiCoO2 at 4.6 V
Xiaohu Wang (Peking University)

P02-092 Abstract ID 672
Unlocking the composition-independent design protocol of intergrown Zero-Strain cathode material for Li ion batteries
Hyeong-Jun Nam (UNIST)

P02-093 Abstract ID 673
One-step sintering synthesis achieving multiple structure regulation for high-voltage LiCoO2
Hengyu Ren (Peking University Shenzhen Graduate School)

P02-094 Abstract ID 682
Theoretical Studies on Electron Phonon Coupling in Cathode Materials of Lithium-ion Batteries
Yaokun Ye (Peking University Shenzhen Graduate School)

P02-095 Abstract ID 689
Achieving High-Performance All-Solid-State Lithium Batteries with NbS2-FeS2 Intercalation-Conversion Cathodes
Yuxiang LYU (The Hong Kong University of Science and Technology)

P02-096 Abstract ID 690
The volume manufacture of low-cost and sustainable Li-ion cathode active materials
Waqas Malik (Redoxion)

P02-097 Abstract ID 691
Enhanced electrochemical properties of Li-rich layered cathode by lanthanide doping
Qianyuan Qiu (University of Twente)

P02-098 Abstract ID 709
Revealing the Accelerated Capacity Decay of a High-Voltage LiCoO2 upon Harsh Charging Procedure
Haocong Yi (Peking University)

P02-099 Abstract ID 711
Unraveling the oxygen evolution in layered LiNiO2 with the role of Li/Ni disordering
Yu Zhang (Peking University ShenZhen Graduate School)

P02-100 Abstract ID 718
Oxyfluoride Cathode with Small Volume Change Using Three-dimensional Diffusion Paths
Zhuoyan Zhong (Kyoto University)

P02-101 Abstract ID 724
Dual-Effect Interfacial Modification Strategy for Ni-Rich Cathodes in All-Solid-State Batteries
Jun Pyo Son (Yonsei University)

P02-102 Abstract ID 725
Degradation Mechanism of LiNbO3 Coating Material for Cathode in Sulfide-Type All-Solid-State Batteries using X-ray Absorption Spectroscopy
Jiajie Gui (Kyoto University)

P02-103 Abstract ID 732
X-ray CT, XAS and HAXPES Analysis of LiNi0.8Mn0.1Co0.1O2 Cycled at Various Rate
Rinka Yamamoto (Ritsumeikan University)

P02-104 Abstract ID 737
Cationic ordering transition in oxygen-redox layered oxide cathodes
Qinghua Zhang (UCAS)

P02-105 Abstract ID 740
Revealing the strain/stress associated dynamic Li transport pathway within the battery cathode particle via operando in-situ STXM imaging
Chihyun Nam (Seoul National University)

P02-106 Abstract ID 742
Technology iteration of Li-ion batteries using new materials in the cathode
Xuejie Huang (Chinese Academy of Sciences)

P02-107 Abstract ID 744
Study on Lithium-Rich Anti-Perovskite Cathode Material Li2FeSO for Low Temperature Lithium-Ion Batteries
Jiarui Qi (Southern University of Science and Technology)

P02-108 Abstract ID 746
Comparative study of Li2MnO3 synthesis by varying Li-precursors and synthesis conditions for improved electrochemical performance of composite cathodes
Hariharan Dhanasekaran (Chonnam National University)

P02-109 Abstract ID 755
Influence of Li Content on the Topological Inhibition of Oxygen Loss in Li-Rich Cathode Materials
Zhefeng Chen (Peking University)

P02-110 Abstract ID 761
The Effect of Tungsten Doping in Concentration Gradient NCM cathode for High Performance Li-Ion Batteries
Sang-Mun Han (Hanyang University)

P02-111 Abstract ID 762
Insights into homogenous bulk boron doping at the tetrahedral site of NCM811 cathode materials: structure stabilization by inductive effect on transition metal-O-B bonds
Bixian Ying (University of Muenster)

P02-112 Abstract ID 764
Unraveling and suppression of multi-directional planar slipping and microcracking in single-crystal Co-free Ni-rich cathodes
Fan Xinming (Central South University)

P02-113 Abstract ID 772
Gas Evolution Kinetics in Overlithiated Positive Electrodes and its Impact on Electrode Design
Munsoo Song (Seoul National University)

P02-114 Abstract ID 776
Tailoring superstructure units for enhanced oxygen redox in Li-rich layered oxides
Hao Liu (Karlsruhe Institute of Technology)

P02-115 Abstract ID 796
Effects of Processing Parameters on the Composition and Performance of Cathodes in LIBs
Yueyue Luo (University of New South Wales)

P02-116 Abstract ID 799
An in-depth understanding of disordered lithium sulfides for less-hysteresis lithium sulfur batteries
Woosik Min (Kyung Hee University)

P02-117 Abstract ID 805
Unified design flow for facilitating fast Li-kinetics in layered oxide cathodes
Juncheol Hwang (Kyunghee University)

P02-118 Abstract ID 806
Designing high entropy materials in LiFePO4 Cathodes
Taesoo Kim (Kyunghee University)

P02-119 Abstract ID 812
LiNi1/3Mn1/3Co1/3O2 Nanoparticles Produced by Flame Spray Pyrolysis with Crystallinity Characteristics Similar to Commercial NMC Particles
Xueyan Zhao (Stanford University)

P02-120 Abstract ID 813
Investigation of Micron-Scale Single-Crystal Process for Ni-rich Layered Oxides Cathode
Kuan-Zong Fung (National Cheng Kung University)

P02-121 Abstract ID 816
Towards fast charging layered cathode materials via mitigating kinetic hindrance
Yu Tang (City University of Hong Kong)

P02-122 Abstract ID 818
A Concentration Gradient Approach to Enhance Mechanical and Electrochemical Stability in Ni-rich Cathode Materials for Long-lasting Lithium-ion Batteries
Zhiyong Huang (City University of Hong Kong)

P02-123 Abstract ID 819
Combined Neutron techniques revealing failure mechanism of fast charging LCO pouch cell
Wei Wang (City University of Hong Kong)

P02-124 Abstract ID 820
Mitigation of cation mixing of LiNiO2-based cathode materials by Li-doping for high-performing lithium-ion battery
Yali Wen (City University of Hong Kong)

P02-125 Abstract ID 821
Regulating Electron Distribution of P2-Type Layered Oxide Cathodes for Practical Sodium-Ion Batteries
Zhengbo Liu (City University of Hong Kong)

P02-126 Abstract ID 822
Insight into structural degradation of NCMs under extreme fast charging process
Xingyu Wang (City University of Hong Kong)

P02-127 Abstract ID 825
Synthesis, modification and electrochemical performance of manganese-based lithium iron phosphate batteries
Yuzhi He (City University of Hong Kong)

P02-128 Abstract ID 826
Regulating the surface and interior electronic structures for enhanced oxygen stability in LMR cathodes
Zijia Yin (City University of Hong Kong)

P02-129 Abstract ID 828
Probing the structure evolution of Na-Cu-Mn-O based layered oxide cathode materials in sodium ion batteries
Tingting Yang (City University of Hong Kong)

P02-130 Abstract ID 833
Surface-engineering multifunctional nanolayer on nickel-rich layered cathode to boost the electrochemical performance
Huandi Zhang (Xian Jiao Tong University)

P02-131 Abstract ID 841
Innovative Crack Management Strategy Through Elastic Polymer Grain Boundary Infusion for Chemo-mechanical Stable Ultrahigh-Ni NCM Cathode
Yutong Liu (The Hong Kong Polytechnic University)

P02-132 Abstract ID 845
Enhancing Structural Stability and Performance of Single-Crystal LiNiO2 Cathodes via Fluorine Doping
ELMAATAOUY ELHoucine (Mohammed VI Polytechnic University)

P02-133 Abstract ID 846
Insights into the Role of Li3AlF6 Coating in Mitigating Voltage and Capacity Decay of Li-Rich Li1.2Ni0.13Mn0.54Co0.13O2 Cathode
NABIL EL HALYA (Mohammed VI Polytechnic University)

P02-134 Abstract ID 850
Porous Carbon Coated LiFePO4 Synthesized by a Simple and Scalable Co-precipitation Method for High Performance Lithium-Ion Battery Cathode
Marwa Tayoury (Mohammed VI Polytechnic University)

P02-135 Abstract ID 851
Fe2O(SO4)2: a potential cathode for Li-based and Na-based batteries
Meiling Sun (Wuhan University of Technology)

Topic 3: Nanostructured materials for Lithium batteries

(17 June 2024, 18:50-21:00)

Chair: Zhaoyin Wen, Qing Chen

P03-001 Abstract ID 120
Improving electrochemical properties of Li/Mn-rich cathode materials by ultra-thin TiO2 nano-coating
Majid Farahmandjou (University of Technology Sydney)

P03-002 Abstract ID 141
Anomalous lithium storage in self-activated metal-organic frameworks driven by structural transformation
Chun-Yen Yang (National Taiwan University)

P03-003 Abstract ID 154
Coating and doping strategies for enhanced electrochemical performance of phosphite-based LiTi(HPO3)2 as anode for Li-ion batteries
Ikrame Taoufik (Mohammed Vth University in Rabat)

P03-004 Abstract ID 175
Fabrication of cellulose-basalt powder composite separator for lithium-ion batteries
Zhang Dan (Shanghai Jiao Tong University)

P03-005 Abstract ID 193 (Withdrawn)
Spin-coated S-based Thin Film Cathode for Lithium-Sulfur Microbatteries
Aliya Mukanova (National Laboratory Astana)

P03-006 Abstract ID 214
In-Situ Synergetic Strategy Enables High-Voltage LiCoO2 Cathode for All-Solid-State Thin-Film Battery
Jinxu Qiu (China Academy of Engineering Physics)

P03-007 Abstract ID 221
Templated synthesisTemplated synthesis of 2D TiO2 nanoflakes for durable lithium ion batteries of 2D TiO2 nanoflakes for durable lithium ion batteries
Yaxuan He (China Academy of Engineering Physics)

P03-008 Abstract ID 271
Rational manipulation of composition and construction toward Zn/Co bimetal hybrids for electromagnetic wave absorption
Xiuyun REN (The Hong Kong Polytechnic University)

P03-009 Abstract ID 273
High-Rate Lithium-Selenium Batteries Boosted by a Multifunctional Janus Separator Over a Wide Temperature Range of -30 °C to 60 °C
Guo Yue (The Hong Kong Polytechnic University)

P03-010 Abstract ID 346
Manipulating Li2CO3 on garnet surfaces for long-cycle solid state lithium batteries
Xiangxin Guo (Qingdao University)

P03-011 Abstract ID 396
Nano garnet electrolyte for solid state lithium batteries
Ning Zhao (Qingdao University)

P03-012 Abstract ID 399
Superior lithium storage properties via an intercalation-cum-conversion reaction in a manganese sulfide anode
Moonsu Song (Chonnam National University)

P03-013 Abstract ID 460
Carbon coated current collector by Electrophoretic deposition: lithium-ion battery applications
Hongqing Hao (Warwick University)

P03-014 Abstract ID 520
Polymer templated electrospinning technique for 1D-NCA cathode material preparation
Nuray Zhalgas (Nazarbayev University)

P03-015 Abstract ID 570
Confined synthesis of atomically-thin metallic nanomaterials
Pengfei Hu (Beihang University)

P03-016 Abstract ID 632
High Entropy Oxides/Oxifluorides as Electrode Materials for Lithium-Ion Batteries
N.V. Kosova (Institute of Solid State Chemistry and Mechanochemistry)

P03-017 Abstract ID 648
Controlling Ionic Transport in Two-dimensional Materials-based Membranes
Xitang Qian (Hong Kong University of Science and Technology)

P03-018 Abstract ID 658
Multi-Scavenging Functional Separator Ensuring the High-Temperature Performance of Lithium-Ion Batteries
Da-Ae Lim (Hanyang university)

P03-019 Abstract ID 735
High performance of lithium-ion battery by super-fine acetylene black and thin multi-walled carbon nanotubes mixture
Kohei Onishi (Denka Co.)

P03-020 Abstract ID 832
Design and Construction of Ti3C2Tx MXene-Based Anode for Alkali Metal Ion Batteries
Xuan Sun (Beijing Institute of Technology)

P03-021 Abstract ID 834
ALD coating for battery materials
Ying ZHUO (Air Liquide (China) R&D Co., LTD)

Topic 4: Liquid electrolytes and ionic liquids

(18 June 2024, 18:50-21:00)

Chairs: Yi-Chun Lu, Zhiyuan Zeng

P04-002 Abstract ID 82
Structuring electrolyte solvation toward beyond 99.9% Coulombic efficiency of sodium plating/stripping at low temperatures
Xiaoliang Yu (The Hong Kong Polytechnic University)

P04-003 Abstract ID 103
Starving Free Solvents: Toward Immiscible Binary Liquid Electrolytes for Li-Metal Full cells
Hyunseok Moon (Yonsei University)

P04-004 Abstract ID 128
Amplifying Fast Chargeable in Li-ion Batteries through Linear Carbonate LiPF6 Electrolytes and Boosted Interfacial Kinetics
Hyuntae Lee (DGIST)

P04-005 Abstract ID 183
How low-temperature heat transfer fluids improve localized high-concentration electrolytes for lithium-metal batteries
Dominik Weintz (Forschungszentrum Jülich (HI MS)

P04-006 Abstract ID 219
3D printable high-performance bicontinuous heterogel electrolyte for lithium batteries
Yuezhen Hua (China Academy of Engineering Physics)

P04-007 Abstract ID 230
Boosting Li-ion transport for graphite electrodes by electrolyte design for fast-charging Li-ion batteries
Yiyi Zheng (City University of Hong Kong)

P04-008 Abstract ID 239
Dual-Anions Ionic Liquid Electrolyte Enabled High-Temperature Lithium-Metal Batteries
Quan Wu (Chalmers University of Technology)

P04-009 Abstract ID 250
Electrochemical Li+ intercalation in 2D TMDs and its In-Situ Liquid Phase TEM studies
hiyuan Zeng (City University of Hong Kong)

P04-010 Abstract ID 251
Low Concentration Electrolyte Enables Stable Cycling of Na Metal Batteries
Lingfei Zhao (University of Wollongong)

P04-011 Abstract ID 253
Effect of using Benzenesulfonyl groups assistants for liquid electrolyte in Li-S batteries
Hyejun Kim (Sungkyunkwan University)

P04-012 Abstract ID 266
A durable Ah-level anode-free sodium metal battery operating at low temperatures
Liang Hu (The Hong Kong Polytechnic University)

P04-013 Abstract ID 269
Generalized Kohlrausch's Law to Describe Concentration-Dependent Conductivity of Non-Aqueous Electrolytes for Lithium-Ion Batteries
Hyun Deog Yoo (Pusan National University)

P04-014 Abstract ID 291
Interaction of Polyvinylidene fluoride (PVdF) and Polyvinylidene chloride (PVdC) with Aluminum chloride (AlCl3) / 1-Ethyl-3-methylimidazole (EMImCl) ionic liquid electrolyte in Rechargeable Aluminum-Batteries (RABs)
Eugen Zemlyanushin (Karlsruhe Institute of Technology)

P04-015 Abstract ID 298
A universal strategy for high-voltage aqueous batteries via lone pair electrons as the hydrogen bond-breaker
Yanxin Shang (Beijing Institute of Technology)

P04-016 Abstract ID 299
Unveiling the Impact of New Phosphorus-based Additives on the NMC811-based Cell Performance and Safety
Bahareh A. Sadeghi (Forschungszentrum Juelich GmbH)

P04-017 Abstract ID 323
Rational Lithium Salt Molecule Tuning for Fast Charging/Discharging Lithium Metal Battery
Pan Zhou (Tsinghua University)

P04-018 Abstract ID 368
Bayesian Optimization-based Robotic Screening of Electrolytes for Sustainable Aqueous Lithium-ion Batteries
Jackie Yik (Uppsala University)

P04-019 Abstract ID 389
Development of Separator-electrode Assembly for Flexible Li-ion Batteries
Techin Tungcharernpaisarn (The Chinese University of Hong Kong)

P04-020 Abstract ID 393
Molecule Design for Non-Aqueous Wide-Temperature Electrolytes via the Intelligentized Screening Method
Tian Qin (institute of physics, CAS)

P04-021 Abstract ID 427
Cross-Talk and Electrolyte Additive Interactions: A Case Study of LNO||Graphite Cell Chemistry
Christian Wölke (Univ. Grenoble Alpes)

P04-022 Abstract ID 430
Enhancing Coin Cell Performance: Mitigating the Challenges of LiFSI-based Electrolytes with Stainless-Steel
Marian Cristian Stan (Helmholtz Institute Münster)

P04-023 Abstract ID 438
A voltage-driven dissoluble electrolyte additive enables high-rate and ultralong-life lithium metal batteries
Qinghuai Xu (South China University of Technology)

P04-024 Abstract ID 461
Tailored ether-based electrolytes for ultralong-life graphite anode in rechargeable sodium batteries
Bingyan Song (Southeast University)

P04-025 Abstract ID 464
Multifunctional flame-retardant materials for nonflammable electrolyte design in lithium-ion batteries
Zi Ye (Wuhan University)

P04-026 Abstract ID 480
Liquid Madelung energy accounts for the huge potential shift in diverse electrolytes
Norio Takenaka (The University of Tokyo)

P04-027 Abstract ID 507
Hydrogen Bond Engineering in Ternary Eutectic Electrolytes for High-Performance Hydrogen Batteries
Ziyue Li (Fudan University)

P04-028 Abstract ID 511
Preparation of Low Melting Temperature Lithium-based Binary Salts and Their Physicochemical Properties
Rino Masui (Kogakuin University)

P04-029 Abstract ID 513
Research on electrolyte design and interface control of lithium/sodium ion battery
Dongni Zhao (Lanzhou University of Technology)

P04-030 Abstract ID 528
Deactivating Thermal Runaway Reaction for Safe and Stable Li-ion Batteries
Jing Xie (The Chinese University of Hong Kong)

P04-031 Abstract ID 571
Electrolyte design for lithium-ion batteries with cobalt free cathode and silicon oxide anode
Seongjae Ko (The University of Tokyo)

P04-032 Abstract ID 585
Bromide-based nonflammable electrolyte for safe and long-life sodium metal batteries
Changjian Zuo (The Chinese University of Hong Kong)

P04-033 Abstract ID 622
Investigation of Low Melting Temperature Potassium Ionic Liquids
Takuya Nakagawa (Kogakuin University)

P04-034 Abstract ID 640
Regulating the Water Molecular in the Solvation Structure for Stable Zinc Metal Batteries
Zihao Zhang (Fudan University)

P04-035 Abstract ID 649
Understanding how Solid Electrolyte Interphases and Diluents contribute to expanding the Electrochemical Stability Window of Aqueous electrolytes in Li-ion batteries
Jasper Singh (University of Oxford)

P04-036 Abstract ID 650
Improving Lithium Metal Batteries Performance by Introducing Robust and Highly Lithium-Ion Conductive Interfaces Using Chloroethylene Carbonate Additive
Jae-Min Kim (Hanyang University)

P04-037 Abstract ID 656
Rational design of LiPF6 ether-based electrolytes for Li-metal batteries
Peter-Paul Harks (University of Tokyo)

P04-038 Abstract ID 675
Microstructures Design of Aqueous Electrolytes for High-Energy-Density Aqueous Batteries
Canfu Zhang (Zhejiang University)

P04-039 Abstract ID 681
Tracking degradation of sulfolane-based electrolytes in 5 V LNMO cells
Clément PECHBERTY (Chalmers University of Technology)

P04-040 Abstract ID 706
Rational design of solute species and concentrations for anti-freezing aqueous electrolytes
Liwei Jiang (The Chinese University of Hong Kong)

P04-041 Abstract ID 729
Refining the molecular structures of functional soluble catalysts for Li-air batteries
Jinqiang Zhang (University of Technology Sydney)

P04-042 Abstract ID 749
Fast Interfacial Defluorination Kinetics Enables Stable Cycling of Low-Temperature Lithium Metal Batteries
Li Xinpeng (University of Science and Technology of China)

P04-043 Abstract ID 779
A Dual-secure Anticorrosion Mechanism for Aluminum Corrosion Prevention
Bing Joe Hwang (National Taiwan University of Science and Technology)

P04-044 Abstract ID 840
Rational Element Design of Electrolyte Additives in Lithium-ion Batteries
Qimin Tian (School of Advanced Materials, Peking University)

Topic 5: Polymer or Gel Batteries

(18 June 2024. 18:50-21:00)

Chairs: Yonghong Deng, Hong Li

P05-001 Abstract ID 24
Enhanced the Electrochemical Performance of Solid State Lithium Metal Batteries by Rational Designing of Polymer Electrolytes
Ruiping Liu (China University of Mining and Technology (Beijing))

P05-002 Abstract ID 68
Elucidating Ion Transport Phenomena in Sulfide/Polymer Composite Electrolytes for Practical Solid-State Batteries
Kyeong-Seok Oh (Yonsei University)

P05-003 Abstract ID 80
Ionic Porous Organic Polymers Solid Electrolytes for Lithium Metal Batteries
Hang Luo (The Hong Kong University of Science and Technology)

P05-004 Abstract ID 213
Structure-performance relationship of multi-scale ionogel electrolytes
Qinqin Ruan (Institute of Process Engineering, CAS)

P05-005 Abstract ID 236
Enhancing Solid-State Battery Performance through Polymer-Coated Electrode Materials
Bing-Xuan Shi (Justus Liebig University Giessen)

P05-006 Abstract ID 249
General Understanding of the Impact of Arm Structures on the Ionic Conductivity of Star Polymer Electrolytes
Bo Qiao (ShanghaiTech University)

P05-007 Abstract ID 268
Screening of Li salts in Polymer Composite Solid Electrolytes for Solid-state Lithium-ion Batteries
Palanivel Molaiyan (University of Oulu)

P05-008 Abstract ID 412
Cross-interfacial Li-ion Conduction induced in “Polymer-in-Ceramic” Composite Electrolyte
Nan Meng (University of Science and Technology Beijing)

P05-009 Abstract ID 523
Operando Raman observation of structural changes inside the C6 electrode of all-solid-state Li polymer battery
Moe Araki (Kogakuin University)

P05-010 Abstract ID 533
Revealing the Influence of Electron Migration Inside Polymer Electrolyte on Li+ Transport and Interphase Reconfiguration for Li Metal Batteries
Yingmin Jin (Harbin Institute of Technology)

P05-011 Abstract ID 548
Design of Polymer Solid Electrolyte and Interface Engineering
Bijiao He (North China Electric Power University)

P05-012 Abstract ID 555
Boosting the cycling stability of all-solid-state lithium metal batteries through MOF-based polymeric protective layers
Hongfei Bao (Sun Yat-sen University)

P05-013 Abstract ID 557
Inhibiting residual solvent induced side reactions in vinylidene fluoride-based polymer electrolytes enables ultra-stable solid-state lithium metal batteries
Dechao Zhang (City University of Hong Kong)

P05-014 Abstract ID 628
Phonon engineering in solid polymer electrolyte towards high safety for solid-state lithium batteries
Xuemin Shi (Tongji University)

P05-015 Abstract ID 636
Polymer-based quasi-solid electrolyte for high-performance lithium metal batteries
Chen Dai (The Hong Kong University of Science and Technology)

P05-016 Abstract ID 659
Durable and Adjustable Polymeric Ether-Based Electrolytes for High-Voltage Lithium Metal Batteries
Yong Chen (University of Technology Sydney)

P05-017 Abstract ID 747
Polymer-ion interaction prompted quasi-solid electrolyte for room-temperature high-performance lithium-ion batteries
Fangzheng Liu (The Hong Kong University of Science and Technology)

P05-018 Abstract ID 756
Physical polymer gels for sodium batteries
Victor Gregorio (Technical University of Denmark)

P05-019 Abstract ID 757
External Pressure in Polymer-Based Lithium Metal Batteries: An Often-Neglected Criterion When Evaluating Cycling Performance
Gerrit M. Overhoff (FZ Jülich)

P05-020 Abstract ID 789
A Rational Design of Solid Polymer Electrolyte toward High-voltage Lithium Metal Batteries
Junjie Chen (The Hong Kong University of Science and Technology)

P05-021 Abstract ID 795
Single-crystal NMC811 cathodes enabling high-performance solid-state polymer lithium-metal batteries
Qing Wang (The Swiss Federal Laboratories for Materials Science and Technology)

P05-022 Abstract ID 815
Aging property of halide solid electrolyte at the cathode interface
Joohyeon Noh (Seoul National University)

P05-023 Abstract ID 831
Polymer electrolytes shielded by 2D Li0.46Mn0.77PS3 Li+-conductors for all-solid-state lithium-metal batteries
Bowen Jiang (Huazhong University of Science and Technology)

Topic 7: Issues related to supply chain, market & other cells
(18 June 2024, 18:50-21:00)
Chair: Xiaobo Ji

P07-001Abstract ID 64
An elastic current collector capable of adaptive deformation for improving the cyclic stability of high-capacity electrodes in lithium-ion batteries
Chang-An Wang (Tsinghua University)

P07-002 Abstract ID 118
High Performance Rechargeable Li Ion Battery for Medical Device Applications
Hui Ye (MEDTRONIC)

P07-003 Abstract ID 119
Polyimide Binders for Lithium Ion Batteries
Tianyue Zheng (Ningbo Institute of Materials Technology and Engineering, CAS)

P07-004 Abstract ID 223
Investigation on the preparation and synthesis mechanism of Cr8O21 cathode material
Wu Zichen (Shanghai Institute of Space Power Source)

P07-005 Abstract ID 359
Direct Electrolytic Extraction of Lithium Metal from Brines Based on Sandwich-structured Garnet Electrolyte
Nan Zhang (Shanghai Jiao Tong University)

P07-006 Abstract ID 360
Composite polymer electrolyte with vertically aligned garnet scaffolds for quasi solid-state lithium batteries
Qiwen Chen (Shanghai Jiaotong University)

P07-007 Abstract ID 466
Development of an ultra-quick chargeable battery using a 5-V-class lithium nickel manganese spinel cathode and niobium-titanium oxide anode
Yoshiaki Murata (Toshiba Co. Ltd.)

P07-008 Abstract ID 475
Development of an ultra-quick chargeable battery using a 5-V-class lithium nickel manganese spinel cathode and niobium-titanium oxide anode
Jichao Zhai (South China University of Technology)

P07-009 Abstract ID 476
The Lifecycle of Lithium-Ion Batteries in German Electromobility: Logistical Challenges and Strategies
Max Plotnikov (Fraunhofer Institute for Material Flow and Logistics)

P07-010 Abstract ID 792
Ion-exchanges membrane lithium selectivity and water co-transport relevant for lithium extraction from geothermal brines using electrodialysis
Simon Solberg (Norwegian University of Science and Technology)

P07-011 Abstract ID 793
Promisingly primary market prospects for the future lithium batteries
Liuqing LI (The Hong Kong Polytechnic University)

Topic 8: Electrode/Electrolyte interface and advanced characterizations

(18 June 2024, 18:50-21:00)

Chairs: Yong Yang, Qiang Zhang

P08-001 Abstract ID 18
Electrode Parameterisation as an Investigative Tool for Monitoring Battery Interfaces in Commercial Lithium-Ion Battery Electrodes
Roksana Jackowska (University of Birmingham)

P08-002 Abstract ID 50
Revealing Solid-Electrolyte Interphase (SEI) Formation and Evolution at the Li Anode/Liquid Electrolyte Interface in Li-ion Batteries by in situ Fourier Transform Infrared Spectroscopy (FTIR)
Daniel Wang (Massachusetts Institute of Technology)

P08-003 Abstract ID 70
Advanced in-Situ Investigations of Li-Ion Cells on Electrode Level - Coupled Operando Mass Spectrometry and Operando Dilatometry for Revealing Aging Effects
Philipp Heugel (Fraunhofer Institute for Chemical Technology)

P08-004 Abstract ID 104
Dynamic Interfacial Behavior of Cathode Lithium Cobalt Oxide under Varied Voltage Conditions with Electrolyte Additive and Artificial Layer
Meihua Hong (Sungkyunkwan University)

P08-005 Abstract ID 112
High-Throughput Collision Electrochemistry for In-Situ Characterization of Nanointerfacial Processes
Si-Min Lu (Nanjing University)

P08-006 Abstract ID 124
High-concentration electrolyte design for improving interface environment on anode using bottom-up multiscale approach
Hongjun Chang (Chung-Ang University)

P08-007 Abstract ID 146
Visualizing the internal strain in an assemble of battery cathode particles through Electron Backscatter Diffraction
Weina Wang (Shanghai Jiao Tong University)

P08-008 Abstract ID 186
Interface Design for Advanced Lithium Metal Batteries
Jia-Qi Huang (Beijing Institute of Technology)

P08-009 Abstract ID 187
Regulating Lithium Salt to Inhibit Surface Gelation on an Electrocatalyst for High-Energy-Density Lithium-Sulfur Batteries
Xi-Yao Li (Tsinghua University)

P08-010 Abstract ID 188
Promoting the Sulfur Redox Kinetics by Mixed-Organodiselenide in High-Energy-Density Lithium-Sulfur Batteries
Xi-Yao Li (Tsinghua University)

P08-011 Abstract ID 190
The Crucial Role of Electrode Potential of a Working Anode in Dictating the Structural sad of Solid Electrolyte Interphase
Shu-Yu Sun (Tsinghua University)

P08-012 Abstract ID 191
Reforming the Uniformity of Solid Electrolyte Interphase by Nanoscale Structure Regulation for Stable Lithium Metal Batteries
Shu-Yu Sun (Tsinghua University)

P08-013 Abstract ID 196
Tuning Electrolyte Solvation Structure and CEI Film to Enable Long Lasting FSI- based Dual-ion Battery
Yu Zhao (City University of Hong Kong)

P08-014 Abstract ID 232
Probing the electric double layer structure at nitrogen-doped graphite electrodes by constant-potential molecular dynamics simulations
Legeng Yu (Tsinghua Center for Green Chemical Engineering Electrification)

P08-014 Abstract ID 235
Stabilizing Lithium Metal Anodes by a Self-Healing Polythiourea Protective Layer
Yongsheng Zhang (Zernike Institute for Advanced Materials)

P08-015 Abstract ID 238
Construction of Sulfone-based Polymer Electrolyte Interface Enables the High Cyclic Stability of 4.6 V LiCoO2 Cathode by In-situ Polymerization
Huang Yuli (Institute of Physics, CAS)

P08-016 Abstract ID 243
Ultrasonic scanning technique for lithium-ion battery checking
Yue Shen (Huazhong University of Science and Technology)

P08-017 Abstract ID 248
Tracking solid electrolyte interphase formation on LiPON using in situ lithium plating X-ray photoelectron spectroscopy
Stephen J Turrell (University of Oxford)

P08-018 Abstract ID 258
Selenide Interfacial Chemistry for High-Voltage Lithium Cobalt Oxide (LCO) Batteries up to 4.7 V
Ang Fu (Xiamen University)

P08-019 Abstract ID 262
High-energy all-solid-state lithium batteries enabled by Co-free LiNiO2 cathodes
Longlong Wang (University of Oxford)

P08-020 Abstract ID 282
Unraveling the interfacial properties in lithium batteries employing advanced operando vibrational spectroscopy
Masoud Baghernejad (Helmholtz Institute Münster)

P08-021 Abstract ID 284
Preparing of N,O-doped Hard Carbon Anode for Na-ion Battery
Yuan Zhou (Chengdu University of Technology)

P08-022 Abstract ID 293
Solid Electrolyte Interphase Recombination on Graphene Nanoribbons for Lithium Anode
SHI XIAOWEI (Xi'an Jiao Tong University)

P08-023 Abstract ID 295
In-operando Visualization of Ion Transport at the electrolytes/lithium Metal Interface
Yuan Yang (Columbia University)

P08-024 Abstract ID 312
Using micro-X-ray fluorescence spectroscopy in lithium ion cell research
Ben Tang (Dalhousie University)

P08-025 Abstract ID 320
Atomic scale STEM observations of LLZ and LATP solid electrolytes at room temperature
Kazuo Yamamoto (Kyusyu University)

P08-026 Abstract ID 347
Unique sulfur chemistry alleviating active lithium loss for high-energy lithium ions batteries
Mengyu Tian (Institute of Physics, CAS)

P08-027 Abstract ID 398
Deciphering Buried Interfaces in All-Solid-State Batteries with a Computational Raman Database
Yuheng Li (National University of Singapore)

P08-028 Abstract ID 402
Unveiling the Crucial Role of Dissolved Fe2+ on the SEI in Long-life LiFePO4/Graphite Batteries
Shijun Tang (Xiamen University)

P08-029 Abstract ID 408
Beyond LiF: Tailoring Li2O-Dominated Solid Electrolyte Interphase for Stable Lithium Metal Batteries
Huipeng Zeng (Southern University of Science and Technology)

P08-030 Abstract ID 415 (withdrawn)
Nature-inspired interfacial engineering for highly stable Zn metal anodes
Canbin Deng (The Hong Kong University of Science and Technology)

P08-031 Abstract ID 432
Nanoscale visualization of Li deposition and SEI with cryo-TEM & cryo-ET
Yaolin Xu (Helmholtz-Zentrum Berlin)

P08-032 Abstract ID 468
A robust all-organic protective layer towards ultrahigh-rate and large-capacity Li metal anodes
Shimei Li (City University of Hong Kong)

P08-033 Abstract ID 479
Ab-initio Study of Solid-state Electrolytes and Cathodes Interfaces
Ping-Chun Tsai (National Taiwan University of Science and Technology)

P08-034 Abstract ID 485
Argyrodite artificial cathode electrolyte interphase via electrophoretic deposition for improved high-voltage NMC622 performance
Inbar Anconina (Tel Aviv University)

P08-035 Abstract ID 487
Stacking Pressure Homogenizes the Electrochemical Lithiation Reaction of Si Anode in Solid-State Battery
Qingbo Cao (Shanghai Jiao Tong University)

P08-036 Abstract ID 489
Understanding Mechanisms for Mitigating Metal Anode Degradation via in situ Liquid Cell TEM
Yi Yuan (University of Oxford)

P08-037 Abstract ID 491
Aluminum Corrosion-Passivation Regulation Prolongs Aqueous Batteries Life
Binghang Liu (Institute of physics, CAS)

P08-038 Abstract ID 499
Improvement of low-temperature performance of lithium-ion batteries by combining amide and nitrile solvents
Xiaoqi Wu (Southern University of Science and Technology)

P08-039 Abstract ID 502
Charge transfer kinetics at the interface between LiMn2O4 and high-concentration LiTFSA/ether electrolyte
Zhi Zhou (Yokohama National University)

P08-040 Abstract ID 521
Hydrophobic and Homogeneous Conductive Carbon Matrix for High-Rate Non-Alkaline Zinc-Air Batteries
Fengmei Wang (Fudan University)

P08-041 Abstract ID 544
Development of Operando Spectroscopy Measurement Technique for Under Electrochemical Reactions
Hayate Mukofukasawa (Kogakuin University)

P08-042 Abstract ID 564
Decoding the Structural Evolution of UiO-66 in CO2-Zinc Batteries: An In-Situ Powder Diffraction and XAS Investigation
Dongfang Li (University of Technology Sydney)

P08-043 Abstract ID 568
Electrolyte design for improving cycle life and rate performance in Li-S batteries
Yu Zhou (City University of Hong Kong)

P08-044 Abstract ID 573
To stabilize the high-voltage single-crystalline LiNi0.8Mn0.1Co0.1O2 cathode by tailored interphase
Haidong Liu (Uppsala University)

P08-045 Abstract ID 587
Crystal Structure Assignment for Unknown Compounds from X-ray Diffraction Patterns with Deep Learning
Bingxu Wang (Peking University)

P08-046 Abstract ID 608
Solid-electrolyte interphase governs zinc ion transfer kinetics in high-rate and stable zinc metal batteries
Xun Guo (City university of Hong Kong)

P08-047 Abstract ID 611
Topsound--The Expert of Battery Quality and Safety
Shen Yue (Wuxi Topsound Technology Co.)

P08-048 Abstract ID 616
Investigation on the thermal stability of cathode and solid-state electrolyte interface
Xincheng Lei (Institute of Physics, CAS)

P08-049 Abstract ID 617
Limited Li-Metal Expansion During High-Rate Discharge of High-Energy Li|NMC811 Pouch Cells: X-ray Computed Tomography Findings
Arghya Dutta (National Institute for Materials Science)

P08-050 Abstract ID 655
In-situ Ultrasonic Scanning Reveals the Un-Wetting Process in Lithium-ion Pouch-cells
Yang Yang (Institute of Physics, CAS)

P08-051 Abstract ID 667
In-situ visualization of reaction kinetics in lithium-ion batteries
Gaofeng Du (Huazhong University of Science and Technology)

P08-052 Abstract ID 687
Stabilizing High Voltage LiCoO2 by Sulfur-Containing Additive
Haoyi Yang (Beijing Frontier Research Center on Clean Energy)

P08-053 Abstract ID 694
Elucidating the impact of non-spherical morphology on kinetic behavior of graphite using single-particle microelectrode
Anhao Zuo (Tsinghua University)

P08-054 Abstract ID 704
Dependence of Rate Capability of Lithium Titanium Oxide (Li[Li1/3Ti5/3]O4) upon Electrode Structure Examined by Diluted Electrode Method
Kamma Tsuchida (Osaka Metropolitan University)

P08-055 Abstract ID 713
Understanding the Constrained Deformation Behavior of Li Metal Thin Films
Chuangchuang Duan (Huaqiao University)

P08-056 Abstract ID 728
Interfacial Regulation for Lithium Metal Batteries via Electrolyte Design
Xin Tang (University of Science and Technology of China)

P08-057 Abstract ID 734
Charge Transfer Kinetics at Electrode/electrolyte Interface in Acetonitrile Solvent for High-rate Lithium-ion Battery Cathode
Tatsumi Suzuki (Ritsumeikan University)

P08-058 Abstract ID 753
Comprehensive Characterization of Ni-rich NMC using a chemically activated coating process
Yiran Guo (Karlsruhe Institute of Technology)

P08-059 Abstract ID 787
Amorphous lithium lanthanum titanium oxide layer as stable solid electrolyte interphase between lithium metal and solid-state electrolyte
Ruihan Zhang (City University of Hong Kong)

P08-060 Abstract ID 809
Densely Packed Column-Like Lithium Deposition via Dual-Layer Polymer Coating for Anode-Free Lithium Metal Batteries
Jae-Kyung Choi (Hanyang university)

Topic 9: Safety, reliability, cell design and engineering

(18 June 2024, 18:50-21:00)

Chairs: Yuping WU, Baohua Li

P09-001 Abstract ID 77
Enhancing Safety and Performance of Silicon and High Nickel-based Lithium-ion Battery through Flame-Retarding Liquid Electrolyte
Dong Guk Kang (Chungnam National University)

P09-002 Abstract ID 194
A Cost-Effective Alternative to Accelerated Rate Calorimetry: Analyzing Thermal Runaways of Li-ion Battery Through Thermocouples
Yang Yang (Uppsala University)

P09-003 Abstract ID 207
Two-dimensional unilamellar Ti0.87O2 nanosheets for alkali metal batteries
Pan Xiong (Nanjing University of Science and Technology)

P09-004 Abstract ID 215
An in-built mixed conducting interphase enabled by electrochemical active Li4Ti5O12 for solid state lithium metal batteries
Qi Zhou (Southeast University)

P09-005 Abstract ID 244
1,3-Dithane Additive Assisted Carbonate Electrolyte for Highly-Stable Lithium Metal Batteries
Xiaosong Xiong (Southeast university)

P09-006 Abstract ID 252
The C-N fatigue in Lithium-ion Batteries
Chunguang Chen (Institute of Mechanics, CAS)

P09-007 Abstract ID 348
Structural engineering of hard carbon for sodium ion hybrid capacitors
Ziyang Jia (Nanjing Tech University)

P09-008 Abstract ID 349
The modified separators to suppress shuttle effect in Li-S batteries
Shuang Xia (Nanjing Tech University)

P09-009 Abstract ID 423
High-performance lithium metal batteries enabled by a nano-sized garnet solid-state electrolyte modified separator
Kai Yu (South University of Science and Technology of China)

P09-010 Abstract ID 448
Nonflammable Phosphorus-Fixed Gel Polymer Electrolyte with Different Valance States for Safer Lithium-Ion Pouch Cells
Xingjun LI (City University of Hong Kong)

P09-011 Abstract ID 451
Limitations of Li-ion Pouch Cells for Accelerated Testing and Long-Lifetime Cells
Kenneth Tuul (University of Tartu)

P09-012 Abstract ID 474
Thermal runaway suppression technology for lithium-ion batteries based on temperature responsive microcapsules
Jie Liu (Beijing Jiao Tong university)

P09-013 Abstract ID 517
Online Detection of Early Thermal Runaway Gas Characteristics: A Comparative Study of Two Types of Lithium Batteries
Yuyao Cao (Tsinghua University)

P09-014 Abstract ID 540
Effects of electrolyte/cathode ratio on investigation of their thermal behaviors using differential scanning calorimetry
Xilin Xu (Institute of Physics, CAS)

P09-015 Abstract ID 553
Automated Impurity Analysis for Lithium-ion Batteries with Perception
Huimin Wang (Thermo Fisher Scientific)

P09-016 Abstract ID 615
A semi-supervised approach for battery lifetime prediction based on self-attention mechanism
Yixing Wang (Tsinghua University)

P09-017 Abstract ID 629
Integration of Fiber Optic Sensing with Galvanostatic Intermittent Titration for Health Monitoring of Lithium-Ion Batteries
Neha Tewari (Centre for Advances in Reliability and Safety)

P09-018 Abstract ID 630
Non-flammable electrolyte aided by polar polymer for high-voltage Li-ion batteries
Zhikang Deng (Peking University)

P09-019 Abstract ID 674
In-depth understading of the thermal behavior of electrode-electrolyte systems through thermal kinetics
Xinyi Yang (Beijing Frontier Research Center on Clean Energy)

P09-020 Abstract ID 712
Evaluating Thermal Runaway Characteristics of High-energy-density Lithium-ion Batteries through Thermal Behavior Analysis at Material Level
Luyu Gan (Institute of Physics, CAS)

P09-021 Abstract ID 839
Thermal Runaway Fault Diagnosis for Battery Systems Based on Correlation Coefficient and Local Outlier Factor
Junjun Deng (Chang'an University)

P09-022 Abstract ID 842
Semi-solid batteries based on slurry-like electrodes
Hongli Chen (Shanghai Jiao Tong University)

Topic 10: Monitoring, control and validation systems

(18 June 2024, 18:50-21:00)

Chair: Tracy Liu

P10-001 Abstract ID 200
A 110 Wh kg-1 Ah-Level Anode-Free Sodium Battery at -40°C
Qiaonan Zhu (Beihang University)

P10-002 Abstract ID 204
A high-power rechargeable sodium-ion full battery operating at -40 °C
Yingyu Wang (Beihang University)

P10-003 Abstract ID 340
Electrochemical profiling method for diagnosis of inhomogeneous reactions in lithium-ion batteries
Sangbin Park (NAVER Corporation)

P10-004 Abstract ID 467
Long-term monitoring of commercial lithium-ion batteries at the package level using external fiber optic sensors and strain-based prognostic assessments
Sasan Ghashghaie (The Hong Kong Polytechnic University)

P10-005 Abstract ID 471
Diagnosis of lithium dendrite formation using DRT technology
Shuanglong Xu (Southest University)

P10-006 Abstract ID 530
Dry electrode technology validation for high energy density lithium-ion battery
Soon Yee Liew (Nano and Advanced Materials Institute Ltd.)

P10-007 Abstract ID 626
Ultrasonic Phased Array Imaging of Gas Evolution in a Lithium-ion Battery
Wuke Xu (The Hong Kong University of Science and Technology)

P10-008 Abstract ID 677
In-Situ Evaluation and Manipulation of Lithium Plating Morphology Enabling Safe and Long-Life Li-ion Battery
Shuoyuan Mao (Tsinghua University)

P10-009 Abstract ID 769
Characterization of Mixing State of Electrode Slurry Using Electrochemical Impedance Spectroscopy for High-Performance Lithium-Ion Batteries
JUNHAENG HUH (NAVER Corporation)

P10-010 Abstract ID 807
Spinel Nanostructures for the Hydrogenation of CO2 to Methanol and Hydrocarbon Chemicals
Genyuan Wang (The Hong Kong Polytechnic University)

Topic 11: Battery manufacturing and recycling

(18 June 2024, 18:50-21:00)

Chair: Baohua Li, Xuejie Huang

P11-001 Abstract ID 29
Additive Manufacturing of Battery Electrodes
Chuan Cheng (Newcastle University)

P11-002 Abstract ID 46
Electrochemical Properties of LiCoO2 Synthesized by Using Recycled Cobalt Precursors
Jian Peng (University of New South Wales)

P11-003 Abstract ID 136
Upcycling of Spent Lithium-ion Batteries Using Organic Wastes
Huayi Yin (Wuhan University)

P11-004 Abstract ID 275
A Sustainable Battery Recycling Technology to Convert Used Lithium-ion Batteries to Zinc-ion Batteries
Anna Chen (University of Waterloo)

P11-005 Abstract ID 314
A sustainable revival strategy for spent Li-ion batteries: material regeneration complemented with performance improvement
Jing Sun (Shandong University)

P11-006 Abstract ID 383
Reviews and Perspectives: Selective Leaching - A Promising Approach for Recycling Lithium Iron Phosphate Batteries
Tianyu Zhao (Central South University)

P11-007 Abstract ID 537
In-situ Constructed Spinel Layer Stabilized Upcycled LiCoO2 for High Performance Lithium-ion Batteries
Ersha Fan (Beijing Institute of Technology)

P11-008 Abstract ID 572
Regenerated Graphite-Derived Cellular-Inspired Polydopamine@NiO@Graphite toward Robust Lithium Storage
Yan Qiaoyi (Beijing Institute of Technology)

P11-009 Abstract ID 578
Selective extraction of gold from strong acid E-waste leachate through H+-triggered cascade reaction of thiolated Î²-cyclodextrin
Difan Fang (Beijing Institute of Technology)

P11-010 Abstract ID 583
Building Low-Tortuosity Electrodes for Enhanced Performance of Lithium-Ion Battery
Shan Hu (Iowa State University)

P11-011 Abstract ID 595
Novel Direct Recycling Process of Layered Positive Electrode Materials (LCO, NCM, and NCA) using Li+-H+ Exchange Reaction
Chisa Matsushita (Osaka Metropolitan University)

P11-012 Abstract ID 645
Analysis of LIB Second Life and Extended Life Compatibility
Odne S. Burheim (Norwegian University of Science and Technology)

P11-013 Abstract ID 660
A Room-Temperature Regeneration Strategy for the Direct Reuse of Degraded LiFePO4 Electrodes
Dan Yang (Tongji University)

P11-014 Abstract ID 707
Ultrafast Thermal Repair of Spent LiFePO4 by Transient Li Embedding Dynamics
Yuansheng Lin (The Chinese University of Hong Kong (Shenzhen))

P11-015 Abstract ID 722
A new type of fibre battery
Hao Liu (University of Technology Sydney)

P11-016 Abstract ID 758
Direct Regeneration of NMC811 Harvested from Aged Li-ion Batteries via Solid-state Reaction
Nattanai Kunanusont (National Energy Technology Center)

P11-017 Abstract ID 765
Upcycling discarded graphite into free-standing graphene oxide for prelithi-aion
Honghong Tian (Techniche University Darmstadt)

P11-018 Abstract ID 785
Introduction of Polyimide (PI)-based Binder and Eco-friendly Solvent as the Alternative Process of Cathode Fabrication
So-Young Nam (Korea Electronics Technology Institute)

P011-019 Abstract ID 868
Development of Lithium-sulfur batteries with high energy density and long cycle life
Hui Xu (ApogeeTec Greenergy Co. Ltd.)

Topic 12: Lithium-ion, sodium-ion, and multivalent-ion batteries
(18 June 2024, 18:50-21:00)
Chairs: Yongyao Xia, Xiaobo Ji

P12-001 Abstract ID 106
Improving Fast Charging Capability of Graphite Anode Material via Si/SiOx Coating for Lithium-ion Battery
Donghyeok Ma (Hanyang University)

P12-002 Abstract ID 160
A micro battery supercapacitor hybrid device with ultrahigh cycle lifespan and power density enabled by bi-functional coating design
Lin Wang (Wuhan University of Technology)

P12-003 Abstract ID 170
Off-stoichiometric O3 type cathode materials for sodium ion batteries
Dongsheng Geng (Nanjing University of Information Science & Technology)

P12-004 Abstract ID 195
Electrode formulation considerations for novel battery materials
Matthew Teusner (University of New South Wales)

P12-005 Abstract ID 206
Anode interphase design for fast-charging lithium batteries
Yongming Sun (Huazhong University of Science and Technology)

P12-006 Abstract ID 225
Engineering d-p Orbital Hybridization through Regulation of interband energy separation for durable aqueous Zn//VO2(B) batteries
Lianmeng Cui (Wuhan University of Technology)

P12-007 Abstract ID 233
Structural Design and Performance Improvement Strategies of Sodium-Based Layered Oxide Cathode Materials
Ziheng Zhang (Nankai University)

P12-008 Abstract ID 264
Safe aqueous rechargeable batteries enabled by strategical electrolyte regeneration
SI HYOUNG OH (Korea Institute of Science and Technology)

P12-009 Abstract ID 281
Hard Carbon Derived from Biomass Waste Material as an Anode for Sodium-Ion Batteries
Anupam Patel (Banaras Hindu University)

P12-010 Abstract ID 290
Pseudocapacitive Ti3C2Tx (MXene) as Negative Electrode for the Development of Hybrid Sodium Ion Capacitor
Vikas Yadav (Banaras Hindu University)

P12-011 Abstract ID 297
Synergistic Effect of 3D Electrode Architecture and In Situ Carbon Coating on the Electrochemical Performance of SnO2 Anodes for Sodium-Ion Batteries
Rupan Das Chakraborty (Indian Institute of Technology Hyderabad)

P12-012 Abstract ID 317
Solvent-free electrode processing of sodium ion battery materials and demonstration in pouch full cells
Florian S. Hoffmann (Fraunhofer IWS)

P12-013 Abstract ID 319
High-Voltage Phase Transition in Na[Ni1/3Fe1/3Mn1/3]O2
Libin Zhang (Dalhousie University)

P12-014 Abstract ID 339
The Electronic Push-Pull Effect in Hexaazatriphenylene-based Small Molecules for Zinc-Ion Batteries
Zhiqiang Wang (Southern University of Science and Technology)

P12-015 Abstract ID 373
Mg-rich disordered rocksalt oxide cathodes for Mg-ion batteries
Yuan Quan (University of Oxford)

P12-016 Abstract ID 380
Recyclable cellulose-based polymer-in-salt gel electrolyte for stable zinc ion supercapacitor
Cunxin Liu (Aalto University)

P12-017 Abstract ID 413
Low Cost and High Energy Density Iron- and Manganese-Based Cathodes for Sodium Ion Battery
Xu Bao (Shanghai Jiao Tong University)

P12-018 Abstract ID 433
Latex Binders for High Voltage Operation of Lithium-Ion Batteries
Lu Yin (Tokyo University of Science)

P12-019 Abstract ID 446
Study on the synthesis of high specific capacity O2-O3 composite structure lithium rich manganese-based cathode materials
Yang Ping (Shanghai Jiao Tong University)

P12-020 Abstract ID 465
Activating energy storage potential via designed NASICON cationic defect sites
Jingrong Hou (Tongji University)

P12-021 Abstract ID 473
Cation-deficient Fe3O4 Anode Enabling Fast Lithium Intercalation
Shasha Guo (Tongji University)

P12-022 Abstract ID 496
Zinc-doped Cobalt carbonate hydroxide cathode materials for aqueous alkaline zinc-cobalt batteries
Jinhao Xie (Sun Yat-Sen University)

P12-023 Abstract ID 498
Pressure-Induced Dense and Robust Ge Architecture for Superior Volumetric Lithium Storage
Kunxiong Zheng (Southern University of Science and Technology)

P12-024 Abstract ID 504
Towards Battery Chemistries beyond Lithium-ion Batteries: Developing Sodium-ion battery anode
Asif Mahmood (University of Technology Sydney)

P12-025 Abstract ID 512
Anion Concentration Gradient-Assisted Construction of a Solid-Electrolyte Interphase for a Stable Zinc Metal Anode at High Rates
Xiaofeng He (Technical Institute of Physics and Chemistry)

P12-026 Abstract ID 539
Electrolyte Optimisation for Ni-layered oxide/XNO® Li-ion Cells: Extended Cycle Life at High Temperature
Loubna HDIDOU (Echion Technologies Ltd)

P12-027 Abstract ID 575
Zinc-Contained Alloy as a Robustly-Adhered Interfacial Lattice Locking Layer for Planar and Stable Zinc Electrodeposition
Chunyi Zhi (City University of Hong Kong)

P12-028 Abstract ID 582
Analysis of Binder Distribution within Lithium-ion Battery Electrode
Weihui Hao (Thermo Fisher Scientific)

P12-029 Abstract ID 597
Development of Concentrated Electrolyte Solutions Based on NaFSA and 1,3-Propanesultone
Daiki Ejima (Tokyo University of Science)

P12-030 Abstract ID 601
Electrochemical Performance of a Bulk-Type All-Solid-State Fluoride-Ion Battery Using Dual Cation Fluoride as a Positive Electrode
Keiji Shimoda (Ritsumeikan University)

P12-031 Abstract ID 663
Sluggish charge transfer limiting sodium-ion pouch cell charging at low temperatures
Jinyu Yang (Fudan University)

P12-032 Abstract ID 683
Multiscale Correlative Imaging Reveals Sequential and Heterogeneous Degradations in Fast-Charging Batteries
Dechao Meng (Shanghai Jiao Tong University)

P12-033 Abstract ID 699
Applicability of Layered Na0.6Mn1-xMexO2 (Me = Mg, Ti, Zn) as Positive Electrode of LIBs
Sho Toriumi (Tokyo University of Science)

P12-034 Abstract ID 700
Effect of Crystalline Water Content on the Electrochemical Performance of Prussian Blue for Sodium-Ion Batteries
Kosei Watanabe (Tokyo University of Science)

P12-035 Abstract ID 702
3D-printed hierarchical porous and multidimensional conductive network based on conducting polymer/graphene oxide
Cankun Gao (Lanzhou University of Technology)

P12-036 Abstract ID 708
Inhomogeneous Localized Aggregates Enabled Ultra-Low Temperature Hybrid Aqueous Batteries
Houzhao Wan (Hubei University)

P12-037 Abstract ID 770
Research of high capacity Si-Sn composite anode materials
Jin Zhou (Institute of Physics, CAS)

P12-038 Abstract ID 802
Light-Assisted Lithium-Ion Battery by Photo-Ionic Reaction in Semiconductor
Nur Chamidah (Ritsumeikan University)

P12-039 Abstract ID 824
Revealing the closed pore formation of waste wood-derived hard carbon for advanced sodium-ion battery
Rui Zhang (Central South University)

P12-040 Abstract ID 843
3D Ternary Alloy Artificial Interphase Toward Ultra-Stable and Dendrite-Free Aqueous Zinc Batteries
Yan Xin (North China Electric Power University)

P12-041 Abstract ID 849
Waste to Energy: Extraction of vanadium pentoxide from sulfuric acid plant spent catalyst for Na3V2(PO4)2F3 cathode materials synthesis
EL-Houcine ELMAATAOUY (Mohammed VI Polytechnic University)

Topic 14: Latest Developments in Li Battery Technology

(18 June 2024, 18:50-21:00)

Chairs: Zijian Zheng, Minhua Shao

P14-001 Abstract ID 149
Electrochemical Sensors Printed on the Separator
Robert Dominko (National Institute of Chemistry)

P14-002 Abstract ID 159
In Situ Constructing Highly Aggregated Polyether Electrolytes with Excellent Interfacial Compatibility for High-Voltage Quasi-Solid-State Lithium Metal Batteries
Shujing Wen (The Hong Kong Polytechnic University)

P14-003 Abstract ID 162
Growth Facet Control of Metallic Anodes for High-energy Metal Batteries
Yanpeng Guo (The Hong Kong Polytechnic University)

P14-004 Abstract ID 167
A Low-cost Al(OH)3-modified Fire-retardant and Shuttle-limiting Separator for Safe and Stable Lithium Sulfur Batteries
Junhua Zhou (The Hong Kong Polytechnic University

P14-005 Abstract ID 168
Janus Lithium-Textile Anode for Long Life, High-Energy, and Flexible Lithium Metal Battery
Jiehua Cai (The Hong Kong Polytechnic University)

P14-006 Abstract ID 185
The Promotion of Emerging Energy Materials for Lithium-Sulfur Batteries through Lithium Bond Chemistry
Qiang Zhang (Tsinghua University)

P14-007 Abstract ID 192
Dual-interphase-stabilizing sulfolane-based electrolytes for high-voltage and high-safety lithium metal batteries
Junhua Zhou (The Hong Kong Polytechnic University)

P14-008 Abstract ID 198
In Situ Fabrication of Interface-Gapless Flexible Solid-State Lithium Metal Batteries Based on UV-Permeable 3D Li Anodes
Chuan Xie (The Hong Kong Polytechnic University)

P14-009 Abstract ID 234
Surface Stabilization of Metallic Polyethylene terephthalate (PET) for flexible and energy-dense Li-ion batteries
Wancheng Yu (The Hong Kong Polytechnic University)

P14-010 Abstract ID 260
Construction of aqueous metal-halogen dual ion batteries
Yongqiang Yang (The Hong Kong Polytechnic University)

P14-011 Abstract ID 310
LIB degradation by RIPE mode analyzed by operando neutron diffraction
Hajime Arai (Tokyo Institute of Technology)

P14-012 Abstract ID 378
Modifying Li@Mn6 superstructure units by Al substitution to enhance the long-cycle performance of Co-free Li-rich cathode
Zhibo Li (The Hong Kong Polytechnic University)

P14-013 Abstract ID 472
Controllable Long-term Lithium Replenishment for Enhancing Energy Density and Cycle Life of Lithium-ion Batteries
Ganxiong Liu (Tongji University)

P14-014 Abstract ID 620
Cathode Pre-lithiation Strategies for LiFePO4 Battery
Yong Yan (Songshan Lake Materials Laboratory, CAS)

P14-015 Abstract ID 653
Tackling the Activity-Stability Dilemma of Lithium-ion Batteries: A Thermal Modulation Approach
Wen-Ke Zhang (Beijing Institute of Technology)

P14-017 Abstract ID 808
Detailed understanding of charging policy for enabling long-term cycle life in lithium-ion batteries
Seok-hyun Lee (Kyung Hee University)

P14-018 Abstract ID 827
Make fast-charging batteries charging faster
Yaqing Guo (Wenzhou University)

P14-019 Abstract ID 869
Innovative Crack Management Strategy Through Elastic Polymer Grain Boundary Infusion for Chemo-mechanical Stable Ultrahigh-Ni NCM Cathode
Qiang Liu (The Hong Kong Polytechnic University)

Topic 15: Beyond Li: Metal-air, sulfur, redox flow, Na, Mg, K batteries

(19 June 2024, 18:15-21:00)

Chairs: Chunyi Zhi, Yuguo Guo, Minhua Shao

P15-001 Abstract ID 26
A Hierarchical Hybrid Mxenes Interlayer with Triple Function for Room-Temperature Sodium-Sulfur Batteries
Zefu Huang (University of Technology Sydney)

P15-002 Abstract ID 28
An aqueous rechargeable Al-ion battery based on cobalt hexacyanoferrate and Al metal
Xinhai Yuan (Nanjing Tech University)

P15-003 Abstract ID 35
Single-atom catalysts for energy storage and conversion
Hao Tian (University of Technology Sydney)

P15-004 Abstract ID 37
High Stable Phenothiazine based Organic Redox-Active Molecules for Aqueous Organic Flow Batteries
Changkun Zhang (Dalian Institute of Chemical Physics, CAS)

P15-005 Abstract ID 38
A redox-mediated zinc-air fuel cell for scalable and sustained power generation
Yuxi Song (National University of Singapore)

P15-006 Abstract ID 39
New layer-structured cathode materials for sodium-ion batteries and their sodium storage mechanisms
Yong-Ning Zhou (Fudan University)

P15-007 Abstract ID 41
Optimizing O3-type Fe-Mn -based Cathodes for Na-ion Batteries: Unveiling the Synergistic Impact of Chemical co-Substitution
Arindam Ghosh (Jawaharlal Nehru Centre for Advanced Scientific Research)

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Redox covalent organic framework solid state electrolyte with high conductivity for calcium ion battery
Zhuoyu Yin (The Hong Kong University of Science and Technology)

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Effect of nickel and copper substitution on the electrochemical performance of O3-type layered transition-metal oxide cathode materials for sodium-ion batteries
Jayson S. Garcia (University of the Philippines Diliman)

P15-010 Abstract ID 44
Borophosphate Polyanions as Novel Cathode Materials for Sodium-ion Batteries
Lora Monique Sapanta (University of the Philippines)

P15-011 Abstract ID 45
Silver-doped Prussian White Compounds as Novel Cathode Materials for Sodium-ion Batteries
Mecaelah Palaganas (University of the Philippines Diliman)

P15-012 Abstract ID 57
Reversible Aqueous Zinc Batteries
Longsheng Cao (Dalian Institute of Chemical Physics, CAS)

P15-013 Abstract ID 59
Optimizing structural stability of layered oxide cathodes via effective doping for Sodium-Ion Batteries
Su Hwan Jeong (Gyeongsang National University)

P15-014 Abstract ID 60
A High-performance Sodium-Metal Batteries with Barium Titanate 3D Porous Scaffold
Sang Jun Lee (Gyeongsang National University)

P15-015 Abstract ID 63
An Intrinsically Stable Electrolyte Enables Dense Magnesium Metal Anodes with Near-Unity Coulombic Efficiency
Chang Li (University of Waterloo)

P15-016 Abstract ID 65
Chitosan binders for sustainable lithium-sulfur batteries: Synergistic effects of mechanical and polysulfide trapping properties
Alfonso Mayren (Universidad Autónoma Metropolitana)

P15-017 Abstract ID 66
Suppressing Inactive Phase Formation by In-situ Ti Doping into MnO2 for Long Lifespan MnO2-Zn Battery
Qiaohui Duan (City University of Hong Kong)

P15-018 Abstract ID 74
Revealing the Impact of Ruthenium in Layered Sodium Cobaltite for Enhanced Electrode Performance Through Anionic and Cationic Redox Processes
Voronina Natalia (Sejong University)

P15-019 Abstract ID 75
Some considerations of multitransition-metal phosphates for high performance Na/Mg ion batteries
Gregorio F. Ortiz (Huaqiao University)

P15-020 Abstract ID 83
Adsorption and cycling effects of organic redox molecules used in aqueous redox flow batteries
Miji Joy (Technology Innovation Institute)

P15-021 Abstract ID 85
An encapsulating lithium-polysulfide electrolyte for practical lithium-sulfur batteries
Xue-Qiang Zhang (Beijing Institute of Technology)

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Correlating Polysulfide Solvation Structure with Electrode Kinetics towards Long-Cycling Lithium-Sulfur Batteries
Zheng Li (Tsinghua University)

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Anion-Involved Solvation Structure of Lithium Polysulfides in Lithium-Sulfur Batteries
Liang Shen (Tsinghua University)

P15-024 Abstract ID 110
Reversible Neutral Zinc-air Batteries
Fei Wang (Fudan University)

P15-025 Abstract ID 117
Kinetic Promoters for Sulfur Cathodes in Lithium-Sulfur Batteries
Jia-Qi Huang (Beijing Institute of Technology)

P15-026 Abstract ID 123
Advancing Zn-Metal Anodes: Dual-Layer Metal Fluoride/Polymer Coatings for Enhanced Stability
Jaewoong Han (Daegu Gyeongbuk Institute of Science and Technology)

P15-027 Abstract ID 126
Anion-derived Polycrystalline Solid Electrolyte Interphase to Enable Fast-Cycling Magnesium Metal Batteries
Meng Zhang (Shanghai Jiao Tong University)

P15-028 Abstract ID 130
Electrolyte Engineering and Interface Chemistry Toward High-Voltage Magnesium Batteries Achieved by Phosphorus/Silicon Synergistic Interphase Manipulation
Zhengqing Fan (Shanghai Jiao Tong university)

P15-029 Abstract ID 132
Electrolyte Design for Regulating Interfacial Chemistry in Magnesium-Sulfur Batteries
Jiayi Li (Shanghai Jiao Tong university)

P15-030 Abstract ID 138
Redox Electrode Material Realizes A Membrane-Free Decoupled Water Electrolyzer
Shuaika Liang (Shanghai Jiao Tong University)

P15-031 Abstract ID 140
Whole-Voltage-Range Oxygen Redox in P2-Layered Cathode Materials for Sodium-Ion Batteries
Xunlu Li (Shanghai Jiao Tong University)

P15-032 Abstract ID 148
Polarizable Additive with Intermediate Chelation Strength for Stable Aqueous Zinc-Ion Batteries
Yuting Xia (Tsinghua University)

P15-033 Abstract ID 153
P2-Type Moisture-Stable and High-Voltage-Tolerable Cathodes for High-Energy and Long-Life Sodium-Ion Batteries
Siqi Yuan (Shanghai Jiao Tong University)

P15-034 Abstract ID 155
Design of Lithium-Sulfur Batteries Revisiting The Role of Lithium Polysulfides
Xin Gao (Peking University)

P15-035 Abstract ID 156
Sparingly Solvating Electrolyte and 2-D Graphene-based Activated Carbon: A Powerhouse Tandem for Lithium-Sulfur Prototype Cell Design
Alexander Santiago (CIC energiGUNE)

P15-036 Abstract ID 164
2,2- Dimethylethenylboronic boric acid as electrolyte additive for sodium-ion batteries
Xin Zhang (Shanghai Jiao Tong University)

P15-037 Abstract ID 171
Rechargeable Hydrogen Gas Batteries
Wei Chen (University of Science and Technology of China)

P15-038 Abstract ID 176
The research of catalytic conversion in sulfur cathodes for high specific energy lithium sulfur (Li-S) batteries
Qinjun Shao (Dalian Institute of Chemical Physics, CAS)

P15-039 Abstract ID 177
Non-activated carbon derived from carob biomass for high performance lithium-sulfur batteries
Otmane Zoubir (Moroccan Foundation for Advanced Science Innovation and Research (MASciR))

P15-040 Abstract ID 179
High Energy Density Aqueous Zinc-Chalcogen (S, Se, Te) Batteries: Recent Progress, Challenges, and Perspective
Xin Wang (University of Wollongong)

P15-041 Abstract ID 181
Manganese Single Atom as Effective Electrocatalyst for High-rate Lithium Selenium Batteries
Sreelakshmy K J (Indian Institute of Science Education and Research Thiruvananthapuram)

P15-042 Abstract ID 199
Shedding Light on the Origin of Sodium Dendrite Growth to Build Better Sodium Metal Batteries
Chhail Bihari Soni (Indian Institute of Technology Delhi)

P15-043 Abstract ID 211
Three Dimensional Zinc-alloy-based Anode Materials for High-performance Aqueous Zn Batteries
Huajun Tian (North China Electric Power University)

P15-044 Abstract ID 228
Cell and anode design toward Mg-S battery of practically high energy density
Ping Li (Shanghai Jiao Tong University)

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Versatile MXenes for Aqueous Zinc Batteries
Huan Liu (Xi'an University of Science and Technology)

P15-046 Abstract ID 254
Pressure-Induced Defects and Reduced Size Endow TiO2 with High Capacity over 20000 Cycles and Excellent Fast-Charging Performance in Sodium Ion Batteries
Zhiyu Zou (Southern University of Science and Technology)

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Chlorine-Terminated Titanium Carbide (MXenes) as Positive Electrodes for Aluminum Batteries
Eliana Fuentes Mendoza (Karlsruhe institute of Technology)

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Inhibiting Dendrite Formation and Electrode Corrosion via a Scalable Self-Assembled Mercaptan Layer for Stable Aqueous Zinc Batteries
Baohui Ren (Shenzhen University)

P15-049 Abstract ID 267
Unveiling New Electrode Reactions in Rechargeable Metal-Ion Batteries Through Solvent Co-Intercalation
Guillermo Alvarez Ferrero (Humboldt-Universität zu Berlin)

P15-050 Abstract ID 270
Unlocking High-Performance Ammonium-Ion Batteries: Activation of In-Layer Channels for Enhanced Ion Storage and Migration
Lu Xin (Shenzhen University)

P15-051 Abstract ID 276
Configuring light elemental doped carbon@S composite cathode for high-performance Li-S batteries
Chunxi Hai (Chengdu University of Technology)

P15-052 Abstract ID 277
Anode-Free Potassium Metal Battery Enabled by Directly Grown Graphene Modulated Aluminum Current Collector
Yu Zhao (The Hong Kong Polytechnic University)

P15-053 Abstract ID 278
Synergistic effect of FeS2 decorated graphene and a 3D electrode architecture as a catalytic cathode in lithium-sulfur batteries
J Priscilla Grace (Indian Institute of Technology Hyderabad)

P15-054 Abstract ID 283
Room temperature Sodium sulfur batteries
Binwei Zhang (Chongqing University)

P15-055 Abstract ID 285
Mitigating corrosivity of the Chloroaluminate-based electrolyte for aluminum batteries using additives
Mahla Talari (IAM-ESS Karlsruhe Institute of Technology)

P15-056 Abstract ID 296
Improved electrochemical performance of doped graphene nanoribbons for potassium-ion batteries
Aihua Jin (Yanbian University)

P15-057 Abstract ID 300
Impact of Jellyroll Tapes on Performance of Layered Oxide/Hard Carbon Sodium-Ion Pouch cells
Ziwei Ye (Dalhousie University)

P15-058 Abstract ID 303
Dynamically Ion-Coordinated Bipolar Organodichalcogenide Cathodes Enabling High-Energy and Durable Aqueous Zn Batteries
Yongchao Tang (Guangdong University of Technology)

P15-059 Abstract ID 304
The Influence of Ni and Fe Content Adjustment on Structural Stability and Electrochemical Performance of the Layered Oxide Cathode for Sodium-Ion Batteries
Alibi Namazbay (Nazarbayev University)

P15-060 Abstract ID 308
Rechargeable zinc-ion batteries with extended lifespan and High-Current Capable Enabled By In-Situ Grown Artificial SEI
Shunyu Yao (Shanghai Jiao Tong University)

P15-061 Abstract ID 311
Blending Hard Carbon with Red Phosphorus to Enhancing the Anode Volumetric Capacity of Sodium Ion Batteries
Yixiang Zhang (Dalhousie University)

P15-062 Abstract ID 313
Stabilizing vanadyl phosphate cathode materials in rechargeable aqueous zinc batteries
Xiaoqi Sun (Northeastern University)

P15-063 Abstract ID 316
Advanced Bio-Waste Derived Hard-Carbon for Sodium-ion Batteries
Aishuak Konarov (Nazarbayev University)

P15-064 Abstract ID 352
Enhancing Energy Efficiency in Mg-CO2 Batteries
Rui Xu (University of Science and Technology Beijing)

P15-065 Abstract ID 353
High-energy composite cathode for solid-state lithium-oxygen battery boosted by ultrafine carbon nanotube catalysts and amorphous lithium peroxide
Xiaoping Yi (Institute of Physics, CAS)

P15-066 Abstract ID 355
High-efficiency cathode potassium compensation for potassium-ion batteries
Bing Sun (University of Technology Sydney)

P15-067 Abstract ID 356
Understanding ultrafast rechargeable Al/graphite battery by visualizing phase separation
Wen Luo (Southern University of Science and Technology)

P15-068 Abstract ID 362
Yolk-Shell Structure and Spin-Polarized Surface Capacitance Enable FeS Stable and Fast Ion Transport in Sodium-Ion Batteries
Jie Liu (Southern University of Science and Technology)

P15-069 Abstract ID 363
Accurate Determination of the Location of Insulating Byproducts in Discharge Products of Lithium-Oxygen Batteries
Kiho Nishioka (Kyoto University)

P15-070 Abstract ID 366
Reconfiguring Sodium Intercalation Process of TiS2 Electrode for Sodium-Ion Batteries by a Partial Solvent Cointercalation
Jooha Park (Seoul National University)

P15-071 Abstract ID 367
A Nonaqueous Mg-CO2 Battery with Low Overpotential
Wenbo Liu | Wenbo Liu (University of Science and Technology Beijing)

P15-072 Abstract ID 370
Micro-structuring and Inter-Layer Expansion of Layered Molybdenum Oxide for Mg-Ion Batteries with Enhanced Energy Density
Sri Charan Reddy (Pusan National University)

P15-073 Abstract ID 371
Advanced dual-functional carbonate-based electrolyte design in Li-S batteries utilizing sulfurized polyacrylonitrile cathodes
Seungwon Lee (Hanyang University)

P15-075 Abstract ID 375
Cobalt-containing Metaphosphate based Insertion Material as an Air-cathode for Li-O2 Battery
Ritambhara Gond (Uppsala University)

P15-076 Abstract ID 376
Degradation on Discharge in Ether-Based Li-O2 Batteries
Chloe Oi Hei Chau (University of Oxford)

P15-078 Abstract ID 381
Porous carbon synthesis made of traditional Korean paper for Li-S batteries
Yunju Choi (Korea Basic Science Institute)

P15-079 Abstract ID 382
Electrochemical Performance of Microporous Hollow Carbon from Milkweed Pappus as Cathode Material for Li-S Batteries
Jong-Seong Bae (Korea Basic Science Institute)

P15-080 Abstract ID 384
High-Energy-Density Li-O2 Batteries with Graphene Mesosponge Cathodes
Wei Yu (Tohoku University)

P15-081 Abstract ID 400
From Organic Carbonate- to Ether-based Na Battery Electrolytes: Lessons Learned from High Throughput Ionic Conductivity Mapping
Robert Tobias Hinz (Forschungszentrum Jülich GmbH)

P15-082 Abstract ID 401
Highly Stable Prussian White/CNT Composite Cathode with Moisture Control for Next Generation Sodium Ion Batteries
Jiwoon Kim (Chonnam National University)

P15-084 Abstract ID 405
Cu-doped Prussian White with Low Crystal Defect as High-energy Cathode Materials for Sodium Ion Batteries
Sanghyeon Lee (Chonnam National University)

P15-085 Abstract ID 406
Relaxation of Stress Propagation in Alloying-Type Sn Anodes for K-Ion Batteries
Junji Piao (Chonnam National University)

P15-086 Abstract ID 418
Fluoride Ionic Conductor La2SrF4S2 and its Cation-Anion Engineering for Enhanced Conductivity
Chengchao Zhong (Ritsumeikan University)

P15-087 Abstract ID 419
Comparative Study on Electrochemical Quartz Crystal Microbalance (EQCM) Analysis of Trifluoromethanesulfonate- and Sulphate-based Zinc-ion Electrolytes
Aditya Ranjan Pati (Pusan National University)

P15-088 Abstract ID 420
Why does a lower overpotential not guarantee better cyclability of Li-oxygen batteries?
Zhaohan Shen (Tohoku University)

P15-089 Abstract ID 424
Non-alkaline Electrolyte Enabled Reversible Zinc-air Batteries Chemistry
Wei Sun (University of Electronic Science and Technology of China)

P15-090 Abstract ID 429
Design of a protonated pyridine-based cationic covalent organic framework microreactor for lithium-sulfur batteries
Yanan Zhang (Tianjin University)

P15-091 Abstract ID 436
Performance of N- and S-doped mesoporous carbon material derived from thiourea and calcium citrate as Li-S batteries
Euh Duck Jeong (Korea Basic Science Institute)

P15-092 Abstract ID 437
High-performance magnesium/sodium hybrid ion battery based on sodium vanadate oxide for reversible storage of Na+ and Mg2+
Xiaoke Wang (Shenzhen Institute of Advanced Technology)

P15-093 Abstract ID 444
Mechanistic Insights into the Interactions between a New Type of Hard Carbon Anode and Organic Electrolytes in Sodium-Ion Batteries
Chunyi Zhi (City University of Hong Kong)

P15-094 Abstract ID 445
In-situ and Real-time Monitoring the Thermal Evolution of Lithium-ion Batteries
Chunyi ZHI (City University of Hong Kong)

P15-095 Abstract ID 449
Lithium Salt Dissociation Promoted by 18-Crown-6 Ether Additive toward Dilute Electrolytes for High Performance Lithium Oxygen Batteries
Jingning Lai (Beijing Institute of Technology)

P15-096 Abstract ID 450
Design and Synthesis of a π-conjugated N-heteroaromatic Material for Aqueous Zinc-Organic Batteries with Ultrahigh Rate and Extremely Long Life
Cuiping Han (Institute of Technology for Carbon Neutrality)

P15-097 Abstract ID 452
K-metal batteries for high-performance employing a strategy of regulating an electrolyte solvation structure
Jimin Park (Hanyang University)

P15-098 Abstract ID 453
Establishing a stable solid electrolyte interphase of potassium metal anode via pre-treatment with potassium polysulfide to achieve high-performance potassium metal batteries
Chaerin Gim (Hanyang University)

P15-099 Abstract ID 454
Stabilization of Layered-Type K0.4V2O5 Cathode with Strontium Substitution into K Site
Gwangeon Oh (Hanyang University)

P15-100 Abstract ID 455
Porous bismuth nanocrystals with advanced sodium ion storage property
Li Yun (Wenzhou University)

P15-101 Abstract ID 456
Employing a strategy of cationic and transition metal co-doping in layered NaCrO2 cathodes to enhance the performance of high-energy sodium-ion batteries
Seongje Ryu (Hanyang University)

P15-102 Abstract ID 458(Withdrawn)
Atomic-Level Structure and Electrochemical Properties of Doped Sodium-Ion Battery Cathode Materials
Abhoy Karmakar (University of Cambridge)

P15-103 Abstract ID 462
Hydrogen Bond-Assisted Solution Discharge in Aprotic Li-O2 Battery
Qi XIONG (City University of Hong Kong)

P15-104 Abstract ID 470
Cathode for room-temperature sodium-sulfur batteries
Yaojie Lei (University of Technology Sydney)

P15-105 Abstract ID 477
Enhancing Cyclic Stability of Mn-Based Prussian Blue Cathode for Potassium Ion storage by High-spin Fe Substitution Strategy
Di Guo (Northeastern University)

P15-106 Abstract ID 484
X-ray spectroscopy study on the sintering process and regulation mechanism of sulfurized polyacrylonitrile cathode
Jingyi Xie (Shanghai Institute of Microsystem and Information Technology)

P15-107 Abstract ID 486
Water-Soluble Multifunctional Binder Enabled by Silk Fibroin for High-Voltage Sodium-Ion Battery
Tingzhou Yang (University of Waterloo)

P15-108 Abstract ID 503
Real-time monitoring and analysis of lithium-oxygen battery by-products during battery operation
Yanan Gao (Hokkaido University)

P15-109 Abstract ID 508
In-situ Construction of a Stable Solid Electrolyte Interface and Formation of Polysulfide Molecules Catalyst by Dual-Functional ZnI2 Electrolyte Additive for Li-S Batteries
Zehua Zhao (Hanyang University)

P15-110 Abstract ID 514
Unlocking the Potential of Na Metal Anode by Constructing an Alloy Interphase Artificial Layer for Sodium Metal Batteries
Anjali Anilkumar (Chonnam National University)

P15-111 Abstract ID 515
Studying the Four Different Artificial SEI Layers for Dendrite Free Sodium Metal Batteries
Megala Moorthy (Chonnam National University)

P15-112 Abstract ID 518
Revealing the Influence of ultramicropores in carbonaceous electrodes on enhancing capacitive-controlled reaction of potassium ion hybrid supercapacitors
Jongyoon Park (Ajou University)

P15-113 Abstract ID 529
High-Entropy (LaCeNdSmGd)F3 Solid Electrolytes for Enhanced Performance in All-Solid-State Fluoride-Ion Batteries
Zhihao Chen (Ritsumeikan University)

P15-114 Abstract ID 534
Microstructural Engineering of Hard Carbon Electrodes for Potassium-Ion Hybrid Supercapacitors Using Biomass as the Sole Carbon Source
Kangseok Kim (Ajou University)

P15-115 Abstract ID 538
Decoding the Mechanisms of Reversibility Loss in Rechargeable Zinc-Air Batteries
Zhibin Yi (The Hong Kong University of Science and Technology)

P15-116 Abstract ID 543
Simultaneous KF Coating and F Doping of Layered Potassium Manganese Oxide Cathode for High-Performance K-Ion Batteries
Jang-Yeon Hwang (Hanyang University)

P15-117 Abstract ID 545
Super-concentrated alkali hydroxide electrolytes for rechargeable Zn-air batteries
Yilin Ma (The Hong Kong University of Science and Technology)

P15-118 Abstract ID 547
Heteroatom doped layered oxide cathode material for low-temperature sodium-ion batteries
Fang Zhang (North China Electric Power University)

P15-119 Abstract ID 549
High-Energy-Density Solid-State Metal-Air Batteries: Progress, Challenges, and Perspectives
Tong Wang (University of Waterloo)

P15-121 Abstract ID 567
Electrolyte Evolution: Unravelling Mechanisms and Enhancing Performance in Lithium-Oxygen Batteries
Wenli Wei (CSIRO Manufacturing)

P15-122 Abstract ID 569
Electrolyte optimization for in situ formation of multifunctional solid electrolyte interphase to highly stable aqueous zinc-ion batteries
Zhenjie Sun (Anhui University)

P15-123 Abstract ID 579
Unraveling the Potential of Artificial Interphase Layer for Non-dendrite Sodium Metal Anodes
Jeong Hyeon Song (Chonnam National University)

P15-124 Abstract ID 584
Conducting Polymers to Enhance Oxygen-Breathing Cathodes for Lithium-Oxygen Batteries
Rebecca Milhuisen (CSIRO)

P15-125 Abstract ID 589
Selective ion transport layer for highly stable zinc metal batteries
Young-Hoon Lee (Seoul National University)

P15-126 Abstract ID 590
Zinc hexacyanoferrate protection layer for highly reversible zinc anode
Seongbeom Lee (Seoul National University)

P15-127 Abstract ID 599
Importance of Oxygen Supply Rate on Discharge/charge Performance for Li-air Batteries
Morihiro Saito (Seikei University)

P15-129 Abstract ID 609
Deciphering the dynamic interfacial chemistry of calcium metal anodes
Huijun Lin (The Hong Kong Polytechnic University)

P15-130 Abstract ID 618
Sodium Ion Cathode: Understanding Fading Mechanisms
Xiaoran Zheng (University of New South Wales Sydney)

P15-131 Abstract ID 634
Chemical and spatial dual-confinement engineering for stable Na-S batteries with approximately 100% capacity retention
Yong Zhang (Beijing University of Chemical Technology)

P15-132 Abstract ID 641
Surface atom knockout for the active site exposure of alloy catalyst
Yi Ma (Beijing University of Chemical Technology)

P15-133 Abstract ID 647
In-situ Electrochemical Activation Accelerates the Magnesium Storage Kinetics
Xuelian Qu (Fudan University)

P15-134 Abstract ID 654
Operando tracking of phase transitions and redox reactions of layered cathode materials in Na-ion batteries
Guillermo A. Ferrero (Helmholtz-Zentrum Berlin für Materialien und Energie)

P15-135 Abstract ID 661
Controlling potasside reaction in localized high-concentration electrolyte via 1,3,5-trifluorobenzene additive in potassium-metal batteries
Hyun-Wook Lee (Ulsan National Institute of Science and Technology)

P15-136 Abstract ID 664
A over-800 Wh kg-1 lithium-sulfur battery workable in a wide temperature range
Chunyi Zhi (Huazhong University of Science and Technology)

P15-137 Abstract ID 696
Effect of Cation Type (Li+, Na+, K+, Rb+, Cs+) on Metal-O2 Battery Performance
Ryoichi Tatara (Yokohama National University)

P15-138 Abstract ID 697
Optimizations of Non-Flammable, Fluorine-Free Sodium-Ion Battery Electrolyte Towards Commercial Viability
Aram Hall (Uppsala University)

P15-139 Abstract ID 698
High Entropy Sulfides (HES) as a Robust Electrocatalyst for Long-Term Cycling of Lithium-sulfur Batteries
Hassan Raza (Center for Advances in Reliability and Safety (CAiRS))

P15-140 Abstract ID 703
Fluoride-ion conduction in Ba0.57M0.43F2.43 (M = Y, La, Nd, Sm, Bi) solid-state electrolyte for all-solid-state fluoride-ion batteries
Chanachai Pattanathummasid (Kyoto University)

P15-141 Abstract ID 714
Rechargeable Aluminium Batteries: Materials, Interfaces and Full Battery Prototypes
Xiaodan Huang (The University of Queensland)

P15-142 Abstract ID 715(Withdrawn)
A materiomics study of Ni-Fe-Mn based cathode materials for sodium ion batteries
LITUO ZHENG (Fujian Normal University)

P15-143 Abstract ID 720
Azacyclic Anchor-Enabled Cohesive Graphite Electrodes for Sustainable Anion Storage
Jieun Kang (Pohang University of Science & Technology (POSTECH))

P15-144 Abstract ID 726
Micellar solubilization for high-energy-density aqueous organic redox flow batteries
Youngsu Kim (Seoul National University)

P15-145 Abstract ID 730
Ultraflexible 1 Ah Lithium-Sulfur Batteries Using Oxygen-Functionalized Single-Walled Carbon Nanotubes
Junyoung Heo (Korea Electrotechnology Research Institute)

P15-146 Abstract ID 731
Crystal Structure Analysis and Fluoride Ion Conductivity of Ba4Bi3F17 with Fluorite-Type Structure
Saya Hirakawa (Ritsumeikan University)

P15-147 Abstract ID 754
Molecular Catalysis Enables Fast Polyiodide Conversion for Exceptionally Long-Life Zinc-Iodine Batteries
Zihui Chen (Tianjin University)

P15-148 Abstract ID 759
Production of gas-releasing electrolyte-replenishing Ah-scale zinc metal pouch cells with aqueous gel electrolyte
Chunpeng Yang (Tianjin University)

P15-149 Abstract ID 763
Synthesized hard carbon from agricultural waste as an anode for sodium-ion batteries
Ukrit Sahapatsombut (National Energy Technology Center)

P15-150 Abstract ID 766
Complex Hollow nanostructures for Electrochemical Energy Conversion
Le Yu (Beijing University of Chemical Technology)

P15-151 Abstract ID 777
Non-solvating Conversion Li-S Batteries
Xiaoqun Qi (Huazhong University of Science and Technology)

P15-152 Abstract ID 778
Infinite Layer Structured (Ca, Sr)FeO2 Cathodes with High Capacity Involving O-O Bond Formation for All-solid-state Fluoride-Ion Batteries
Kentaro Yamamoto (Nara Women's University)

P15-153 Abstract ID 781
An Argyrodite-derived Cathode Active Material for High-Energy-Density All-Solid-State LithiumSulfur Batteries
Naohiro Horiuchi (Mitsui Mining & Smelting Co.)

P15-154 Abstract ID 782
Improving the Reversibility of Calcium-Sulfur Battery Chemistry through Electrolyte modification
Zhirong Zhao-Karger (Karlsruhe Institute of Technology)

P15-155 Abstract ID 786
Hollow-Structured TiO2, SnO2/S composite as Cathode for Lithium-sulfur Batteries
Pimpa Limthongkul (National Energy Technology Center)

P15-156 Abstract ID 790
Highly Stable Lithium Organic Batteries by Regulating Electrostatic Interaction between Hydrofluoroethers and Carbonyl Cathodes
Yong Lu (Nankai University)

P15-157 Abstract ID 794
Gas Evolution in Sodium Ion Batteries
Guillermo Alvarez Ferrero (Humboldt-Universität zu Berlin)

P15-158 Abstract ID 814
Crown Ether Electrolyte Induced Li2O2 Amorphization for Low Polarization and Long Lifespan Li-O2 Batteries
Li Meng (Shanghai Institute of Ceramics, CAS)

P15-159 Abstract ID 817
Anion design-enabled high-performance Co-based 3D conductive interlayers to absorb and catalyze polysulfides for Li-S batteries
Kaiying Shi (Shanghai Institute of Ceramics, CAS)

P15-160 Abstract ID 823
Microalloying induced stable welded interfaces for highly reversible zero-excess sodium metal batteries
Chunlin Xie (Central South University)

P15-161 Abstract ID 829
Three-dimensional titanium dioxide nanotube arrays induced nanoporous structures and stable solid electrolyte interphase layer for excellent sodium storage in ether-based electrolyte
Dongmei Lin (The Hong Kong Polytechnic University)

Topic 16: All Solid-State Batteries

(20 June 2024, 18:50-21:00)

Chairs: Xuejie Huang, Yonghong Deng

P16-001 Abstract ID 12
Fabrication of Thin, flexible solid-state electrolytes and enhancement of the ionic conductivities
Minjae Kim (Hanyang University)

P16-002 Abstract ID 14
Silicon thin film Anode for stable All-Solid-State Lithium-Ion Batteries
Junhyeok Seo (Hanyang University)

P16-003 Abstract ID 27
Electrolyte design principles for developing quasi-solid-state rechargeable halide-ion batteries
Xu Yang (University of Sydney Technology)

P16-004 Abstract ID 30
Assessing the Potential of the Artificial Cathode/Electrolyte Interphase Formation with Sulfide Solid Electrolytes on Ni-rich Cathode Active Materials as Protective Coating Concept
Maximilian Kissel (Justus Liebig University Giessen)

P16-005 Abstract ID 31
Li-In alloy counter electrodes for the independent evaluation of cathode performance in SSBs
Christoph D. Alt (Justus Liebig University Giessen)

P16-006 Abstract ID 32
Visualizing the Impact of the Composite Cathode Microstructure and Porosity on Solid-State Battery Performance
Johannes Schubert (Justus Liebig University Giessen)

P16-007 Abstract ID 34
Cathode modification using lithium difluorophosphate for sulfide-based solid-state batteries
Yong Joon Park (Kyonggi University)

P16-008 Abstract ID 55
High-Performance All-Solid-State Lithium Metal Batteries Enabled by Ionic Covalent Organic Framework Composites
Jun Huang (The Hong Kong University of Science and Technology)

P16-009 Abstract ID 71
Design of a trigonal halide superionic conductor by regulating cation order-disorder
Seungju Yu (Seoul National University)

P16-010 Abstract ID 72
Anthraquinone-Based Silicate Covalent Organic Frameworks as Solid Electrolyte Interphase for High-Performance Lithium-Metal Batteries
Chen Li (The Hong Kong University of Science and Technology)

P16-011 Abstract ID 81
Mechanically Interlocked Macrocycle Covalent Organic Frameworks (MIM-COFs) as solid electrolyte for Lithium Metal Batteries
Muhua Gu (The Hong Kong University of science and Technology)

P16-012 Abstract ID 88
Construction of Organic-Rich Solid Electrolyte Interphase for Long-Cycling Lithium-Sulfur Batteries
Zheng Li (Tsinghua University)

P16-013 Abstract ID 90
Lithium deposition and stripping behaviors of anode-free all-solid-state lithium-ion batteries with respect to composition of anodes
Da Young Ko (Hanyang University)

P16-014 Abstract ID 93
State-of-charge dependent LiNi0.83Co0.11Mn0.06O2 | Li6PS5Cl interface stability: A kinetical study in solid state batteries
Melina Witt (University of Münster)

P16-015 Abstract ID 94
Exploring the stability windows of a Ni-rich NCM and LPSCl composite cathode during cell cycling via operando X-ray photoelectron spectroscopy
Rebecca Wilhelm (TU Munich)

P16-016 Abstract ID 97
Attaining a fast conducting, hybrid solid state separator for all solid-state batteries through facile wet infiltration method
Philip Heuer (University of Münster)

P16-017 Abstract ID 101
How stack pressure regulation affects electro-chemo-mechanics of all-solid-state batteries
Soon-Jae Jung (Ulsan National Institute of Science and Technology)

P16-018 Abstract ID 105
Sulfide solid electrolytes for all-solid-state rechargeable batteries
Xiayin Yao (Ningbo Institute of Materials Technology and Engineering)

P16-019 Abstract ID 108
Toward practical high-energy long cycling all solid-state batteries
Xuan Zhou (University of Michigan-Dearborn)

P16-020 Abstract ID 109
The role of nanoporous carbon materials for thiophosphate-based all solid state lithium sulfur battery performance
Magdalena Fiedler (Fraunhofer IWS)

P16-021 Abstract ID 116
High Areal Capacity and Long Cyclic Life All-Solid-State Batteries Enabled by Slight Li-riched High Nickel Cathode
Chenji Hu (Shanghai Jiao Tong University)

P16-022 Abstract ID 127
Anode-less All-Solid-State Batteries Operating at Room Temperature and Low Pressure
Jihoon Oh (Seoul National University)

P16-023 Abstract ID 129
Enhancing Stability in Practical Li-Metal Batteries through Electrodeposition-Guided Pre-Passivation of Anodes
Jiyeon Seo (Daegu Gyeongbuk Institute of Science and Technology)

P16-024 Abstract ID 142
Development of Sodium Ion Electrolytes at Low-temperature and High-pressure condition
Yixing Shen (Shanghai Jiao Tong University)

P16-025 Abstract ID 143
Ionic conductive membrane suitable for sodium metal battery separators/electrolytes
Shuzhi Zhao (Shanghai Jiao Tong University)

P16-026 Abstract ID 151
Mixed ionic/electronic conductive double-phase interface for all-solid-state Li-S battery
Xuesong Yin (Agency for Science, Technology and Research)

P16-027 Abstract ID 165
A General Strategy Toward Enhanced Electrochemical and Mechanical Performance of Solid-State Lithium Batteries Through Constructing Covanlently-Bonded Electrode Materials/Electrolyte Interfaces
Lifeng Liu (Songshan Lake Materials Laboratory, CAS)

P16-028 Abstract ID 178
UCl3-Typed Halide Superionic Conductor: Non-Close-Packed Anion Framework
Hong-Bin Yao (University of Science and Technology of China)

P16-029 Abstract ID 197
Anode-initiated or grain boundary-initiated: insights into the mechanisms for dendrite formation in all-solid-state lithium metal batteries
Zhengcheng Gu (Tsinghua University)

P16-030 Abstract ID 216
Construction of Elastic and Conductive Channels for High-Rate & High-Areal-Capacity Sulfur Cathodes in All-Solid-State Lithium-Sulfur Batteries
Ruqin Ma (Xiamen University)

P16-031 Abstract ID 237
Interface study of inorganic solid electrolytes and polymer electrolytes
Ujjawal Sigar (Justus Liebig University Giessen)

P16-032 Abstract ID 245
In-situ Constructed Solid Cathode Electrode Enables Poly (ethylene oxide) Based Solid-State Lithium Batteries to Operate at High-Voltage
Bowei Cao (Institute of Physics, CAS)

P16-033 Abstract ID 255
Constructing an anion capture layer to explore additional efficient ion transport pathways in composite solid electrolyte membranes
Jian Lan (Xiamen University)

P16-034 Abstract ID 272
Tailoring the Solid-Solid Interface for Highly Performing All-Solid-State Lithium-Sulfur Batteries
Hun Kim (Hanyang University)

P16-035 Abstract ID 306
Development of Inorganic-Organic Hybrid Solid Electrolytes in the Tetraalkylammonium Iodide-LiI-Li2S-P2S5 System
Tong FANG (Hokkaido University)

P16-036 Abstract ID 318
Advancing Garnet-Based Solid-State Li Batteries with Porous LLZO Membranes
Huanyu Zhang (ETHZ & EMPA)

P16-037 Abstract ID 325
Expanding the practical stability window of halide solid electrolytes via beneficial redox activities
Zhu Cheng (Delft University of Technology)

P16-038 Abstract ID 338
Li2S-Li2SO3 positive electrode for all-solid-state Li/S batteries
YUSHI FUJITA (Osaka Metropolitan University)

P16-039 Abstract ID 343
Influence of Contouring the lithium metal/solid electrolyte interface on the critical current for dendrites
Shengming Zhang (University of Oxford)

P16-040 Abstract ID 351
Interface Engineering of All-solid-state Lithium Batteries based on Fluorinated Solid Electrolytes
Shruti Suriyakumar (IISER Thiruvananthapuram, Kerala, India)

P16-041 Abstract ID 358
Advancements in Solid-State Lithium Batteries: Enhancing Electrolyte Air and Interface Stability
Guoyao Li (Shanghai Jiao Tong University)

P16-042 Abstract ID 364
Microstructure observation of Ca1-xBaxF2 solid electrolytes using TEM
Kenshin Onishi (Osaka Metropolitan University)

P16-043 Abstract ID 385
Design of Metal-Organic Frameworks for Improving Pseudo-Solid-State Magnesium-Ion Electrolytes
Yun Zheng (University of Macau)

P16-044 Abstract ID 386
Anisotropic Ionic Transport in PEO-LiTFSI Electrolytes
Shun-Jhih Yang (National Taiwan University)

P16-045 Abstract ID 391
Structural reversibility and charge-discharge cycling performance of Li2S-V2S3-LiI positive electrodes for all-solid-state lithium batteries
Masato Osaki (Osaka Metropolitan University)

P16-046 Abstract ID 392
Exploring the Detrimental Effects of Interfacial Chemical Degradation on Reaction Heterogeneity in Sulfide All-Solid-State Batteries
Chanhyun Park (Ulsan National Institute of Science and Technology)

P16-047 Abstract ID 411
Borate-based Lithiated Polyanion Solid Electrolyte for High-energy-density Lithium Batteries
Fang Lian (University of Science and Technology Beijing)

P16-048 Abstract ID 435
Research on the key technology of all-solid metal lithium battery
Hailong Yu (Beijing National Laboratory of Condensed Matter Physics, CAS)

P16-049 Abstract ID 441
Tuning anion ratio of halide solid electrolytes for all-solid-state-lithium batteries
Suhyun Kim (Daegu Gyeongbuk Institute of Science & Technology)

P16-050 Abstract ID 442
Air Stability by Oxygen Substitution into Argyrodite Structure type and Its Replacement Analysis by X-Ray Diffraction
Hyungjin Lee (Daegu Gyeongbuk Institute of Science & Technology)

P16-051 Abstract ID 443
New Superionic Conductor with Unprecedented Structure Type
Jihun Roh (Daegu Gyeongbuk Institute of Science & Technology)

P16-052 Abstract ID 457
Low melting temperature gallium-indium liquid metal anode for solid-state Li-ion batteries
Likun Zhu (Purdue University)

P16-053 Abstract ID 478
Stabilization of single crystal LiNi0.90Mn0.05Co0.05O2 via ZrO2 dual-functional coating enables superior performance for solid-state lithium battery
Chen Liu (Huazhong University of Science and Technology)

P16-054 Abstract ID 488
Facile electrochemical reaction pathway for measuring intrinsic electrochemical stability window of halide solid electrolyte
Jihye Kim (Ulsan National Institute of Science and Technology)

P16-055 Abstract ID 490
3D observation using TEM tomography of solid electrolyte-electrode interfaces in all-solid-state Li-ion batteries
Satoru Oshiro (Osaka Metropolitan University)

P16-056 Abstract ID 492
Creep-type All-solid-state Cathode Achieving Long Life
Xiaolin Xiong (Institute of Physics, CAS)

P16-057 Abstract ID 505
Defect-Tailored Metal-Organic-Framework-Based Quasi-Solid-State Electrolytes: Enhancing Lewis Acid-Base Interactions for Enhanced Lithium Metal Battery Performance
Zeru Wang (Southern University of Science and Technology)

P16-058 Abstract ID 510
Preparation of Solid Electrolytes Containing Highly-Concentrated Electrolytes and Their Physicochemical Properties
Rintaro Mogi (Kogakuin University)

P16-059 Abstract ID 532
Hierarchical Bulk-Interface Design of MOFs Framework for Polymer Electrolyte Towards Ultra-Stable Quasi-Solid-State Li Metal Batteries
RuiFan Lin (Harbin Institute of Technology)

P16-060 Abstract ID 535
Self-Assembled Coordination Compounds as Ionic Conductors for Room Temperature Solid-State Batteries
Xiao Zhan (Xiamen University)

P16-061 Abstract ID 536
Origin of viscoelastic character in pliable solid electrolyte
Youngkyung Kim (Ulsan National Institute of Science and Technology)

P16-062 Abstract ID 542
Effect of Calendaring on the Electrochemical Performance of Composite Cathode with Polytetrafluoroethylene Binder for All-Solid-State Batteries
SeYeon Kim (Hanyang University)

P16-063 Abstract ID 554
Li redistributor effect of coating layer on layered structure cathode for all-solid-state batteries
Jingyu Choi (Ulsan National Institute of Science & Technology)

P16-064 Abstract ID 558
Predicting New Layered Chalcogenide as Super Na+ Conductor and Migration Mechanism Investigation
Diancheng Chen (Sun Yat-sen University)

P16-065 Abstract ID 561
A Universal Self-Propagating Synthesis of Aluminum-Based Oxyhalide Solid-State Electrolytes
Simeng Zhang (Eastern Institute of Technology)

P16-066 Abstract ID 566
Insights on Bi-O dual-doped Li5.5PS4.5Cl1.5 electrolyte with enhanced electrochemical properties for all-solid-state lithium metal batteries
Chuang Yu (Huazhong University of Science and Technology)

P16-067 Abstract ID 581
Comparative and Interface Tailoring Investigation of Sulfur Encapsulated into Mesoporous Carbon as High-Capacity Cathodes for Liquid and Solid-State Lithium Sulfur Batteries
Murugesan Karuppaiah (Dong-A University)

P16-068 Abstract ID 591
Degradation studies of all-solid-state sulfide-based lithium-ion battery examined by voltage analysis
Takeshi KOBAYASHI (Central Research Institute of Electric Power Industry)

P16-069 Abstract ID 600
Using Composite Conductive Additives to Improve Ionic and Electronic Conductivity of High-Loading Cathodes for Sulfide-Based Solid-State Batteries
hansolyu (Sungkyunkwan University)

P16-070 Abstract ID 603
PVCA/PVDF-based Jauns electrolyte for solid-state lithium metal batteries
Fei Zheng (The Hong Kong Polytechnic University)

P16-071 Abstract ID 606
Missing-linker MOF Enabling High-performance Single-Zn2+ Conducting All-solid-state Electrolytes
Xiaobin Hui (The Hong Kong Polytechnic University)

P16-072 Abstract ID 623
A Novel Polyurethane-Based Composite Solid Electrolyte for Lithium Metal Batteries
Jieyan Li (Harbin Institute of Technology)

P16-073 Abstract ID 624
Design of Sulfur-Based Composite Electrode Using Interconnected Mesoporous Carbon for All-Solid-State Li/S Batteries
Taichi Asakura (Osaka Metropolitan University)

P16-074 Abstract ID 625
Optimization of Conducting Agent on the Cathode Composite for Sulfide-based All solid-state Batteries
Sejin Park (Korea Electronics Technology Institute)

P16-075 Abstract ID 646
Unlocking the hidden Na chemical environment site effect for high ionic conductivity sodium chloride solid electrolyte
Beom Jin Park (Ulsan National Institute of Science & Technology)

P16-076 Abstract ID 668
Large-Scale Manufacturing Superionic Lithium Argyrodite Solid Electrolytes Enabling Stable All-Solid-State Battery
Shuo Wang (Wuhan University of Technology)

P16-077 Abstract ID 678
Silica Reinforced Composite Electrolyte Enabled by Fast Interfacial Lithium-Ion Conduction for Lithium Metal Batteries
Tao Zhang (The Hong Kong Polytechnic University)

P16-078 Abstract ID 680
Long Cycle Life of All-Solid-State Lithium Secondary Batteries Using Amorphous MoS4 Electrode Prepared by Thermal Decomposition Process
Keitaro Imai (Osaka Metropolitan University)

P16-079 Abstract ID 685
Sodium Ion Conducting Sulfide Electrolytes Prepared Using Sodium Polysulfides as Self Flux
Atsushi Sakuda (Osaka Metropolitan University)

P16-080 Abstract ID 686
Na halide SE, ZrO2-2Na2ZrCl5F, for 5V-class all-solid-state Na+ batteries
Juhyoun Park (Yonsei University)

P16-081 Abstract ID 688
Potassium-Ion Conducting Chloride Solid Electrolyte with High Voltage Stability
Changhoon Kim (Yonsei university)

P16-082 Abstract ID 701
Amorphous-Based Positive Electrode Active Material in the System LiNiO2-Li2MnO3-Li2SO4
Daiki Hiraoka (Osaka Metropolitan University)

P16-083 Abstract ID 705
Operando Raman Spectroscopy for Electrode Reaction in Anode-Free-Type Sulfide-Based-All-Solid-State Li Batteries
Koji Hiraoka (Kogakuin University)

P16-084 Abstract ID 710
Analysis of Reaction Distribution in Graphite Anode of All-Solid-State Batteries Using High-Resolution in situ X-ray CT Method
Toshiki Watanabe (Kyoto University)

P16-085 Abstract ID 717
Probing Local Conductivity of Crystalline Phase in PEO:LiTFSI Electrolyte
Yu-Chi Wang (National Taiwan University)

P16-086 Abstract ID 723
Accurate characterization of transference numbers in electrolyte systems
Le-Yen Lin (National Taiwan University)

P16-087 Abstract ID 727
Preparation of Li-rich Li7P2S8I Solid Electrolyte to Enable Superior All-Solid-State Lithium Batteries
Rajesh Rajagopal (University of Ulsan)

P16-088 Abstract ID 738
Synthesis of Li2MP2S6 (M=Mn, Fe, Co, Ni) Using Metal Iodide and its Application as a Cathode Material for All-solid-state Lithium Batteries
Yuta Fujii (Hokkaido University)

P16-089 Abstract ID 739
Improving Convergence of Voltage Analysis by Global Optimization
Kiyoshi Betsuyaku (Central Research Institute of Electric Power Industry)

P16-090 Abstract ID 743
Binderless Oxide-Sulfide Composite Solid Electrolyte Sheet for All-Solid-State Batteries
A-Yeon Kim (Korea Institute of Science and Technology)

P16-091 Abstract ID 751
Breaking the Trade-Off Between Ionic Conductivity and Mechanical Strength in Solid Polymer Electrolytes
Ao Du (Tianjin University)

P16-092 Abstract ID 767
Exploring the effects of Ca2+ doping on Na+ conductivity in Na0.5-xLa0.5-xCa2xZrO3 (NLCZ-C2x) for sodium solid-state electrolytes
Hyung-Seok Kim (Korea Institute of Science and Technology)

P16-093 Abstract ID 771
The electrical property and cycling performance of nano CeO2 - PEO composite solid-electrolyte for all solid-state batteries
Jun Seo (Dankook University)

P16-094 Abstract ID 773
Non-Lithium Excess LLZO as highly Conductive Solid Electrolyte for Enhanced Battery Performance
Jun Seo Park (Dankook University)

P16-095 Abstract ID 783
Insight into Multiple Intermolecular Coordination of Composite Solid Electrolytes via Cryo-Electron Microscopy for High-Voltage All-Solid-State Lithium Metal Batteries
Junhao Li (Southern University of Science and Technology)

P16-096 Abstract ID 784
Primer Layered Current Collector for Sulfide-based All Solid State Battery
Hyeonseong Oh (Korea Institute of Science and Technology)

P16-097 Abstract ID 791
Structural Evolution and Defect Chemistry in Inorganic Solid-state Ion Conductors
Hui Wang (University of Louisville)

P16-098 Abstract ID 815
Aging property of halide solid electrolyte at the cathode interface
Joohyeon Noh (Seoul National University)

P16-099 Abstract ID 830
A Solid Path toward High-Energy Li Batteries: High-Voltage Ion-Bridged Polyether Electrolytes via In-Situ Processes
Tianyi Hou (Huazhong University of Science and Technology)

P16-100 Abstract ID 835
Solid Electrolytes and Interfaces for Oxide-based Lithium Metal Batteries
Tao ZHANG (Shanghai Institute of Ceramics, CAS)

P16-101 Abstract ID 844
Constructing Robust LiF-Enriched Interfaces in High-Voltage Solid-State Lithium Batteries Utilizing Tailored Oriented Ceramic Fiber Electrolytes
Yongbiao Mu (Southern University of Science and Technology)

Topic 17: Modelling and simulation of materials, interfaces, and systems

(20 June 2024, 18:50-21:00)

Chairs: Jian Wang, Feng Pan

P17-001 Abstract ID 33
Influence of Microstructure on the Material Properties of LLZO Ceramics Derived by Impedance Spectroscopy and Brick Layer Model Analysis
Sascha Kremer (Justus-Liebig-University Giessen)

P17-002 Abstract ID 56
Effect of the Particle Size Averaging Method on the Predicted Behavior of Lithium-ion Batteries according to the Pseudo-2D Model
Michael Castro (University of the Philippines Diliman)

P17-003 Abstract ID 78
A Sodium-ion Battery Model for Hybrid Renewable Energy Systems Optimization
Joey D. Ocon (University of the Philippines Diliman)

P17-004 Abstract ID 86
Data-Driven Insight into the Reductive Stability of Ion-Solvent Complexes in Lithium Battery Electrolytes
Yu-Chen Gao (Tsinghua University)

P17-005 Abstract ID 111
Visualizing the SEI Formation Between Lithium Metal and Solid-State Electrolyte
Fucheng Ren (Xiamen university)

P17-006 Abstract ID 139
Physics-based modeling for SEI layer and Li plating during cycling aging
Hyunwoo Chung (Chung-Ang University)

P17-007 Abstract ID 145
Identifying Ion Solvation Cage Structure and Dynamics in Polymer Electrolyte for Lithium Batteries
Chao Fang (The Hong Kong University of Science and Technology)

P17-008 Abstract ID 169
Studying the Transport Properties of Structured Electrodes Using Simulated Electrochemical Impedance Spectroscopy (EIS)
Hwee Jien Tan (University of Cambridge)

P17-009 Abstract ID 189
Flatten the Li-ion Activation in Perfectly Lattice-matched MXene and 1T-MoS2 Heterostructures via Chemical Functionalization
Qiye Guan (University of Macau)

P17-010 Abstract ID 240
Effects of Grain Boundaries and Surfaces on the Electronic and Mechanical Properties of Solid Electrolytes
WeiHang XIE (National University of Singapore)

P17-011 Abstract ID 257
Oxygen miscibility into Li3PS4 Solid Electrolytes
Yan Li (National University of Singapore)

P17-012 Abstract ID 361
Revealing Interfacial Superionic Conduction Mechanisms of New Halide Nanocomposite Solid Electrolytes for All-Solid-State Batteries
Jae-Seung Kim (Korea Advanced Institute of Science and Technology)

P17-013 Abstract ID 374
Local ion-flux analyses at interfaces in solid electrolytes
Ryo KOBAYASHI (Nagoya Institute of Technology)

P17-014 Abstract ID 422
Space Charge Storage in Mixed Ionic-Electronic Conducting Materials
Shu-Han Chen (National Taiwan University)

P17-015 Abstract ID 425
First Principles Study on the Interplay of Strain and State of Charge with Li Diffusion in Lithium Cobalt Oxide Cathode Material
Zizhen Zhou (Tokyo Institute of Technology)

P17-016 Abstract ID 459
Local structure and dynamics in solvent-free molten salt Ca2+-electrolytes
Carolina Cruz (Chalmers University of Technology)

P17-017 Abstract ID 493
Identifying the criterion for selecting a suitable physics-based or machine-learning model to solve design-related and control-related problems in Lithium-ion cell
Claudio Capiglia (Reliance Industries Limited)

P17-018 Abstract ID 494
Mechanistic insights into MnO2 Cathodes for Aqueous Rechargeable Zinc Batteries
Zheng Yichun (Sun Yat-sen -University)

P17-019 Abstract ID 497
Thermal Runaway Reaction Kinetics Simulation Incorporating Mass Loss and Gas Pressure Correction
Yu Wang (Tsinghua University)

P17-020 Abstract ID 509
Analysis of Li Metal Anode by Machine Learning Potential
Genming Lai (Peking University)

P17-021 Abstract ID 546
Finite Element Modeling for Charge/Discharge Cycle Simulation of Lithium Oxygen Battery
Shotaro Hanada (Osaka University)

P17-022 Abstract ID 550
A real 2D galvanostatic model: Encoding physicochemical heterogeneity into solid-state batteries
Zhe-Tao Sun (Global Institute of Future Technology)

P17-023 Abstract ID 559
Understanding Capacity Loss in LiNiO2 from Atomistic Simulation
Penghao Xiao (Dalhousie University)

P17-024 Abstract ID 594
Multi-Physics simulations of Li growth in solid electrolytes with different pressing conditions
Yoichi Takagishi (Kobelco Research Institute Inc.)

P17-025 Abstract ID 604
Kinetics of Mixed Ion-Electron Transport in Composite Electrodes
Le-Yen Lin (National Taiwan University)

P17-026 Abstract ID 676
Molecular-level Heterogeneity and Local Symmetry in Deep Eutectic Electrolytes
Mirna Alhanash (Chalmers University of Technology)

P17-027 Abstract ID 692
Modeling and Simulation of Battery Energy Storage Systems for State Estimation in Electric Vehicles in the Field
Jonas Keil (TWAICE Technologies GmbH)

P17-028 Abstract ID 695
Periodic Graph Neural Network for Solid Electrolytes Discovery
CHIKU PARIDA (Technical University of Denmark)

P17-029 Abstract ID 748
Modelling the coupled influence of calendar and cycle ageing on SEI layer growth during lithium-ion battery degradation
Alexander Karger (Technical University of Munich)

Topic 18: AI and Machine Learning for Battery Materials and Management

(20 June 2024, 18:50-21:00)

Chairs: Feng Pan, Jian Wang

P18-001 Abstract ID 49
Advancing Lithium-Ion Battery Predictions through AI: The Journey of BatteryML & BatLiNet
Shun Zheng (Microsoft Research Asia)

P18-002 Abstract ID 67
Will and How AI Redefine the Future of Electrochemistry?
Jing-Hua Tian (Innovation Laboratory for Sciences and Technologies of Energy Materials of Fujian Province)

P18-003 Abstract ID 89
Machine Learning-Assisted Electrolyte Molecule Design for Rechargeable Batteries
Yu-Chen Gao (Tsinghua University)

P18-004 Abstract ID 125
Research on Functional Electrolytes for AI-Driven Magnesium Batteries
Wanyu Zhao (Shanghai Jiao Tong University)

P18-005 Abstract ID 208
Exploration of material genes and structural chemistry in Li-ion batteries
Feng Pan (Peking University)

P18-006 Abstract ID 274
AI + Quantum Chemistry: A Paradigm Shift in Lithium Battery Development - An Assessment of Potential Contributions
LIU Jie (Hong Kong Quantum AI Lab)

P18-007 Abstract ID 388
High Energy O3-Type Na[Ni,Mn,Fe,Ti]O2 Predicted by Machine Learning
Tomooki Hosaka (Tokyo University of Science)

P18-008 Abstract ID 463
Machine Learning-Assisted Development of Stable Layered Oxide Cathode Materials for K-ion Batteries
Heesung Shin (Hanyang University)

P18-009 Abstract ID 605
Combined Machine Learning Method to Accelerate Stable Configuration Identification in Ni-rich LiNi0.8Mn0.1Co0.1O2 Layered Cathode Materials
Ruiqi Zhang (Peking University)

P18-010 Abstract ID 741
Semantic Knowledge Graph Automation for Li-Ion Battery Cathode Exploration
Qiming Xie (Peking University)

P18-011 Abstract ID 745
Machine Learning Methods for Cycle Life Prediction of Electrical Double-Layer Capacitors Based on Limited Early Charge-Discharge Data
Zhen Xu (Southeast University)

P18-012 Abstract ID 752
Revealing Morphology Evolution of Lithium Dendrites by Large-Scale Simulation Based on Machine Learning Force Field
Wentao Zhang (Peking University)

P18-013 Abstract ID 774
Machine Learning-enabled Atomic-scale Simulations of Electrolytes for Anode-Free Sodium-ion Batteries
Smobin Vincent (Technical University of Denmark)

P18-014 Abstract ID 797
Data-driven decoupling structural feature correlation for harnessing anionic capacity in Na layered oxide
Jongbeom Kim (Kyung Hee University)

P18-015 Abstract ID 800
Data-driven prediction of cycle life using cell temperature
Joonyoung Kee (Kyung Hee University)

P18-016 Abstract ID 811
Application of Machine Learning Interatomic Potentials in Engineering Perspective for developing cathode materials
Dohyeong Kwon (KyungHee University)

P18-017 Abstract ID 372
Amide-based protic electrolytes for sodium metal batteries
Yihu Li (Chalmers University of Technology)

P18-018 Abstract ID 379
Reversible Hydration Enabling High-Rate Aqueous Li-ion Batteries
Leiting Zhang (Uppsala University)

P18-019 Abstract ID 607Abstract ID 607
High entropy molten salt electrolytes for calcium batteries
Johanna Timhagen (Chalmers University of Technology)

P18-020 Abstract ID 560
Divided they fall, united they dissolve: Reversible calcium plating from a dual-ether electrolyte
Zaher Slim (Chalmers University of Technology)

P18-021 Abstract ID 403
Polysulfide dissolution and diffusion in imidazole-derived anion based electrolytes
N. Tan Luong (Chalmers University of Technology)