

PREFACE



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The special edition "Eurasian Chemico-Technological Journal" presents the selected papers presented at the 6th International Conference on Nanomaterials and Advanced Energy Storage Systems (INESS-2018), organized by Nazarbayev University (NU), PI National Laboratory Astana (NLA) and Institute of Batteries LLP (IoB). The scientists from Japan, Korea, France, China, Russia, Canada, UAE, UK, Turkey, Kazakhstan and other countries reviewed and discussed the recent progress and problems in materials science, nanotechnologies, ecology, renewable energy, energy storage systems and modelling methods in these fields. INESS is an open event with the participants from academia, industry and investor sectors, which become an effective platform for the scientist from whole over the world to gather and discuss the current trends and future development of research in various directions of materials science, energy conversion and storage, catalysis, electrical transport, sensors and electroanalytical applications and other.

Highlights of the INESS-2018:

About 120 participants worked in sections of INESS-2018. Local media spotlighted the conference on national TV channels. Invited speakers of INESS-2018 delivered their talks. Partner companies and sponsors exhibited their product at the INESS Exhibition. The best Poster and the Best oral presentation among young researchers were awarded. The participants of INESS-2018 visited ethnographic resort Balkaragay near the Astana city, where they could enjoy various amenities including horse riding. For more details please see batterykazakhstan.com. About 20 full length papers were received for the INESS-2018 Proceedings.

The Organizing Committee would like to thank the reviewers for their work in reviewing these manuscripts.

Invited Speakers INESS-2018



Jean-Pierre Pereira-Ramos

Professor, Director, CNRS, Group Electrochemistry and Spectroscopy of Materials – GESMAT, France.

Lecture: The γ' - V_2O_5 Polymorph as an Attractive 2D Cathodic Material for Lithium and Sodium-Ion Batteries.



Seung-Taek Myung

Editor, Journal of Power Sources. Professor, Faculty of Nanotechnology and Advanced Materials Engineering, Sejong University (South Korea).

Lecture: Distorted Orthorhombic Type Na-Mn-O Cathode Materials.



Sung-Soo Kim

Professor, Graduate School of Energy Science and Technology, Chungnam National University (South Korea).

Lecture: Structural and Thermal Stabilities of Li_xCoO_2 cathode for LIB studied by a temperature programmed reduction (TPR).



Hirokazu Munakata

Professor, Department of Applied Chemistry, Graduate School of Urban Environmental Science, Tokyo Metropolitan University, Japan.

Lecture: Development of a quasi-solid composite electrolyte for 3D-structured batteries.

PREFACE



Amit Goyal

Professor, Director of the multi-disciplinary and interdisciplinary RENEW (Research & Education in Energy, Environment & Water), Institute at SUNY-Buffalo in Buffalo (USA).

Lecture: High-performance, heteroepitaxial, nanolaminate device layers on singlecrystal-like, artificial substrates and controlled self-assembly of nanostructures within device layers for wide-ranging electrical and electronic applications.



Maksym Myronov

Dr., PhD, Nano-Silicon Group Leader, Principal Research Fellow, Principal Growth Scientist, Warwick University (United Kingdom).

Lecture: In situ doping of silicon carbide semiconductor via epitaxy.



Zulkhair Mansurov

Professor, Department of Chemical Physics and Material Sciences, Al-Farabi Kazakh National University (Kazakhstan).

Lecture: Synthesis of multifunctional few layers graphenes for different applications.



Yongguang Zhang

Professor, Associate Professor, Research Institute for Energy Equipment Materials, Hebei University of Technology (China).

Lecture: A novel CuS/graphene-coated separator for suppressing the shuttle effect of Lithium/sulfur batteries.



Jongsoo Kim

Assistant Professor, Department of Nanotechnology and Advanced Materials Engineering, Sejong University (South Korea).

Lecture: $\text{Na}_3\text{V}(\text{PO}_3)_3\text{N}$: New zero-strain and 4V cathode material for Na-ion batteries.

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Zhumabay Bakenov

Co-Chairman of the Organizing Committee and Guest Editor Professor, Director of Center for Energy and Advanced Materials Science, National Laboratory Astana, Professor of School of Engineering, Nazarbayev University, Founder of Institute of Batteries LLP.



Arailym Nurpeissova

Scientific Secretary Dr., Head of Laboratory of Advanced Materials and Systems for Energy Storage, National Laboratory Astana, Kazakhstan