



XIV International Conference

## Topical Problems of Energy Conversion in Lithium Electrochemical Systems

September 11 – 15, 2016

Suzdal, Russia

### Conference program

<b>Sunday, September 11</b>	
18:00 – 19:00	<b>Participants registration</b>
20:00	<b>Welcome reception</b>
<b>Monday, September 12</b>	
9:00 – 9:30	<b>Conference opening</b>
9:30 – 10:15	<b>Jean-Marie Tarascon</b> Electrochemical energy storage via batteries: The importance of materials
10:15 – 10:45	<b>Olga Bushkova</b> New Li <sup>+</sup> -conducting electrolytes for advanced lithium batteries
10:45 – 11:05	<b>Oleg Levin</b> Electrode materials based on polymeric complexes of the transition metals with the Schiff bases
11:05 – 11:30	<b>Coffee-break</b>
11:30 – 12:00	<b>Nellie Khasanova</b> Fluoride-phosphate cathode materials for Li-ion batteries: the impact of structure on electrochemical activity
12:00 – 12:20	<b>Stanislav Fedotov</b> New KTP-type fluoride-phosphate cathode materials
12:20 – 12:40	<b>Nina Kosova</b> Sodium-based compounds as hosts for the reversible intercalation of lithium ions
12:40 – 13:00	<b>Alexey Nedoluzhko</b> Lithium ion cells at Liotech: production and applications
13:00 – 14:30	<b>Lunch</b>
14:30 – 15:15	<b>Keith Stevenson</b> Investigations of Battery Interfaces and Interphases with Spatially-resolved Tools
15:15 – 15:45	<b>Tatiana Kulova</b> Na-ion vs. Li-ion
15:45 – 16:05	<b>Artem Kabanov</b> Na conductivity in Na <sub>x</sub> MeXO <sub>4</sub> (Me = Fe, Mn, X = P, As) olivine-type materials
16:05 – 16:30	<b>Coffee-break</b>
16:30 – 17:00	<b>Aleksandr Ivanishchev</b> Modelling of electroanalytical responses of lithium intercalation electrode for the determination of ion transport parameters
17:00 – 17:20	<b>Oleg Drozhzhin</b> Switching between solid solution and two-phase regimes in the phosphate and fluorophosphate cathode materials during Li/Na (de)insertion
17:20 – 17:40	<b>Denis Kornilov</b> Hollow graphene spheres as electrode active materials for lithium-ion battery anode



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### Tuesday, September 13

9:15 – 10:00	<b>Vladislav Blatov</b> Modeling and forecasting of ionic conductivity in solid state
10:00 – 10:20	<b>Evgeniya Il'ina</b> Composite electrolytes $\text{Li}_7\text{La}_3\text{Zr}_2\text{O}_{12}$ – glass $40.2\text{Li}_2\text{O}\cdot 5.7\text{Y}_2\text{O}_3\cdot 54.1\text{SiO}_2$
10:20 – 10:40	<b>Roman Eremin</b> Prediction of potassium solid electrolytes properties by means of density functional theory calculations
10:40 – 11:00	<b>Svetlana Pershina</b> Optimization of solid electrolyte transport properties of the $\text{Li}_2\text{O} - \text{P}_2\text{O}_5 - \text{RO}_2$ (R = Si, Zr, Al) and $\text{Li}_7\text{La}_3\text{Zr}_2\text{O}_{12} - \text{LiPO}_3$ systems
11:00 – 11:30	<b>Coffee-break</b>
11:30 – 12:00	<b>Thierry Djenizian</b> Titania nanotubes for all-solid-state Li-ion microbatteries
12:00 – 12:20	<b>Victor Krivchenko</b> Silicon and germanium thin film electrodes with complex architecture for Li-ion batteries
12:20 – 12:40	<b>Nikita Preobrazhenskiy</b> Anodes for Li-ion batteries based on p-Si membranes with self-organized macropores
12:40 – 13:00	<b>Dmitriy Tarasov</b> Current trends in lithium-ion battery design and recent development of separators for lithium-ion systems
13:00 – 14:30	<b>Lunch</b>
14:30 – 15:15	<b>Artem Abakumov</b> Probing lithium-ion cathode materials by transmission electron microscopy
15:15 – 15:35	<b>Yury Koshtyal</b> $\text{Li}_{1.25}\text{Mn}_{0.54}\text{Ni}_{0.13}\text{Co}_{0.13}\text{O}_2$ synthesized by spray-drying method using nitrate and acetate precursors
15:35 – 15:55	<b>Ivan Bobrikov</b> Structural transformation of $\text{LiNi}_{0.8}\text{Co}_{0.1}\text{Al}_{0.1}\text{O}_2$ cathode material during electrochemical cycling
16:00 – 16:30	<b>Coffee-break</b>
16:30 – 17:00	<b>Andrey Yaroslavtsev</b> Novel nanomaterials for lithium ion batteries
17:00 – 17:20	<b>Svetlana Novikova</b> Method of preparation and electrochemical characteristics of $\text{LiFePO}_4$ -based cathode materials
17:30 – 19:00	<b>Poster session</b>



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### Wednesday, September 14

9:15 – 10:00	<b>Yang Shao-Horn</b> Activating Oxygen Chemistry for Energy Storage
10:00 – 10:20	<b>Oleg Korchagin</b> Mechanism of oxygen reduction/evolution reactions in aprotic solvents of different nature
10:20 – 10:40	<b>Oleg Semeníkhin</b> Aluminium anodes for Li-ion batteries revisited
10:40 – 11:00	<b>Daniil Itkis</b> Thin NASICON-type Li-conductive membranes by crystallization of glasses
11:00 – 11:30	<b>Coffee-break</b>
11:30 – 12:00	<b>Lada Yashina</b> Reactivity of cathode materials towards ORR products and intermediates in Li-air batteries
12:00 – 12:20	<b>Maria Mikryukova</b> Phosphoric acid esters as promising dipolar aprotic solvents for lithium-ion systems and supercapacitors
12:20 – 12:40	<b>Yuri Dobrovolskii</b> Features of silicon anodes in Li-ion batteries
12:40 – 13:00	<b>Meruyert Karim</b> Development of the next generation anode materials for super-efficient lithium-ion batteries
13:00 – 14:30	<b>Lunch</b>
14:30 – 15:15	<b>Vladimir Kolosnitsyn</b> Key problems in development of commercial lithium-sulfur batteries
15:15 – 15:35	<b>Olga Yarmolenko</b> Nanocomposite gel electrolytes for lithium power sources
15:35 – 15:55	<b>Elena Karaseva</b> Solvate complexes of lithium polysulphides as promising cathode materials for Li-S batteries
16:00 – 16:30	<b>Coffee-break</b>
16:30 – 17:00	<b>Veniamin Kondratiev</b> Hybrid Cathode Materials for Lithium-Ion Batteries based on Transition Metal Compounds and Conducting Polymers
17:00 – 17:30	<b>Andrey Kurbatov</b> Kinetics and mechanism of reversible delithiation of lithium iron phosphate
17:30 – 17:50	<b>Petr Vlasov</b> Comparison of electrochemical and chemical synthesis of Ni-salen type conductive polymers
20:00	<b>Conference dinner</b>



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**Thursday, September 15**

9:15 – 10:00	<b>Sergey Likhonosov</b> Prospects of Li-ion cells production development for space application in the Russian Federation
10:00 – 10:20	<b>Alexander Gruzdev</b> Considerations and long-term benefits of lithium-ion batteries for low-orbiting spacecraft applications
10:20 – 10:40	<b>Sergei Ivkov</b> Experience of application of lithium batteries in aerospace systems produced by Rocket Space Center «Progress»
10:40 – 11:00	<b>Vladimir Klyuyev</b> Ultra fast charge: current state and prospects
11:00 – 11:30	<b>Coffee-break</b>
11:30 – 12:00	<b>Vladimir Soldatenko</b> Launch of Chechenneftekhimprom Li-ion batteries plant in Grozny
12:00 – 12:20	<b>Alexei Petrov</b> Material costs reduction in the lithium-ion cells production due to no-waste technologies introduction
12:20 – 12:40	<b>Irina Gamayunova</b> Optimizing of conditions for the synthesis of lithium-ion battery electrode materials according to the planning of multifactorial experiment
12:40 – 13:00	<b>Elena Makhonina</b> The methods to improve the performance of cathode materials for lithium-ion batteries
13:00 – 13:30	<b>Conference closing</b>
13:30 – 14:30	<b>Lunch</b>
15:00	<b>Departure</b>