

Venue - NAZARBAYEV UNIVERSITY, Block C2 (entrance from Turan ave.)

DAY I, AUGUST 7, 2024

8 <sup>00</sup> -9 <sup>00</sup>	<b>REGISTRATION</b> Location: Block C2, M1 floor	
9 <sup>00</sup> -9 <sup>20</sup>	Location: Block C2, 2 <sup>nd</sup> floor, Green hall <b>OPENING CEREMONY</b> Prof. ZHUMABAY BAKENOV, Nazarbayev University Dr. WAQAR AHMAD, The President of Nazarbayev University Dr. ILESANMI ADESIDA, The Provost of Nazarbayev University - <i>Tentative</i>	
<b>KEYNOTE SESSION</b> Chairman: Prof. ZHUMABAY BAKENOV		
K1 9 <sup>20</sup> -9 <sup>50</sup>	Prof. SUNG-SOO KIM Chungnam National University, South Korea	CURRENT TRENDS IN THE KOREAN BATTERY INDUSTRY INTERFACE ANALYSIS OF THE Si ANODES IN THE SULFIDE-BASED SOLID ELECTROLYTE
9 <sup>50</sup> -10 <sup>00</sup>	<b>GROUP PHOTO</b> Location: Block C2, 2 <sup>nd</sup> floor, Green hall	

10<sup>00</sup>-10<sup>20</sup> **COFFEE BREAK** (Block C2, M1 floor)

Green hall (Block C2, 2 <sup>nd</sup> floor)			<b>PARALLEL SESSIONS</b>			Blue hall (Block C2, 2 <sup>nd</sup> floor)		
<b>AI. ADVANCED NANOMATERIALS FOR CATHODE MATERIALS</b> Chairman: Prof. Artem M. Abakumov, Co-Chairman: Dr. Nurzhan Umirov				<b>BI. ADVANCED NANOMATERIALS FOR DIFFERENT APPLICATIONS</b> Chairman: Prof. Hidehiro Sakurai, Co-Chairman: Dr. Umut Bakhbergen				
<b>AI.1 ONLINE</b> 10 <sup>20</sup> -10 <sup>45</sup> INVITED	Prof. NAE-LIH WU National Taiwan University, Taiwan	TO REALIZE HALIDE-BASED ALL-SOLID-STATE Li ION BATTERIES OF HIGH-CAPACITY Ni-RICH NCM CATHODES	<b>BI.1</b> 10 <sup>20</sup> -10 <sup>45</sup> INVITED	Dr. PAVEL B. SOROKIN National University of Science and Technology MISiS, Russia	ADVANCES IN CARBON NANOTUBE ENGINEERING: CHIRALITY AND BEYOND			
<b>AI.2</b> 10 <sup>45</sup> -11 <sup>10</sup> INVITED	Prof. ARTEM M. ABAKUMOV Skolkovo Institute of Science and Technology, Russia	WHAT BORON IS DOING IN NMC CATHODE MATERIALS FOR Li-ION BATTERIES?	<b>BI.2</b> 10 <sup>45</sup> -11 <sup>05</sup>	SADYR SABITOV Nazarbayev University, RK	ECO-FRIENDLY ENHANCEMENT OF INTERFACIAL STRENGTH IN ALUMINUM-POLYURETHANE ADHESIVE JOINTS USING CELLULOSE NANOFIBER AND SURFACE TREATMENT			
<b>AI.3</b> 11 <sup>10</sup> -11 <sup>30</sup>	VALERIYA VOLOBUYEVA National Laboratory Astana, RK	SYNTHESIS AND INVESTIGATION OF LiCoPO <sub>4</sub> -BASED MATERIALS FOR LITHIUM-ION BATTERIES	<b>BI.3</b> 11 <sup>05</sup> -11 <sup>30</sup> INVITED	Prof. ZULKHAIR A. MANSUROV Institute of Combustion Problems, RK	RECENT ACHIEVEMENTS IN NANOSCIENCE & NANOTECHNOLOGY			
<b>AI.4</b> 11 <sup>30</sup> -11 <sup>55</sup> INVITED	Prof. MOZAFFAR ABDOLLAHIFAR Christian-Albrechts-University Kiel, Germany	DEVELOPING HIGH-PERFORMANCE Li-S BATTERY ELECTRODES	<b>BI.4</b> 11 <sup>30</sup> -11 <sup>50</sup>	Dr. ROMAN G. KUKUSHKIN Borakov Institute of Catalysis SB RAS, RF	SUSTAINABLE FUEL COMPONENTS PRODUCTION FROM WASTE COOKING OILS USING NI-MO BIMETALLIC ZSM-23 SUPPORTED CATALYSTS			
<b>AI.5</b> 11 <sup>55</sup> -12 <sup>10</sup> SPONSOR	Dr. STEPHAN WOLLSTADT E-Globalede Corporation	REVOLUTIONIZING BATTERY RESEARCH: RIGAKU'S CUTTING-EDGE IN-SITU AND IN OPERANDO XRD SOLUTIONS	<b>BI.5</b> 11 <sup>50</sup> -12 <sup>15</sup> INVITED	Prof. HIDEHIRO SAKURAI Osaka University, Japan	BUCKYBOWL MEETS CARBONS			
<b>AI.6</b> 12 <sup>10</sup> -12 <sup>30</sup>	NAZERKE ZHUMASHEVA National Laboratory Astana, RK	COMPOSITE OF BIOMASS-DERIVED CARBON AND TITANIUM NITRIDE NANOPARTICLES FOR LITHIUM-SULFUR BATTERIES	<b>BI.6</b> 12 <sup>15</sup> -12 <sup>35</sup>	AZAMAT MALGAZHAR Nazarbayev University, RK	EFFECT OF 2D MATERIAL AND SURFACE TREATMENT ON THE ADHESIVE STRENGTH OF ALUMINUM-POLYURETHANE JOINTS			
<b>AI.7</b> 12 <sup>30</sup> -12 <sup>50</sup>	ALINA TOKTAMYSSOVA Institute of Batteries LLP, RK	DEVELOPING NICKEL-RICH NCM CATHODE MATERIALS WITH ONE-DIMENSIONAL STRUCTURE FOR LITHIUM-ION BATTERIES: SYNTHESIS AND IMPROVING CYCLIC STABILITY	<b>BI.7</b> 12 <sup>35</sup> -12 <sup>55</sup>	Dr. VLADIMIR PAVLENKO Institute of Combustion Problems, RK	STUDY ON EFFECT OF CARBON NANOMATERIALS AS CONDUCTIVE ADDITIVES IN EDLCS			
			<b>BI.8</b> 12 <sup>55</sup> -13 <sup>00</sup>	IMENE EL MEKKI Xenocs SAS	XENOCs, CORPORATE PRESENTATION			

13<sup>00</sup>-14<sup>00</sup> **LUNCH BREAK** (Block C2, 3<sup>rd</sup> floor, Ballroom right)

Green hall (Block C2, 2 <sup>nd</sup> floor)			<b>PARALLEL SESSIONS</b>			Blue hall (Block C2, 2 <sup>nd</sup> floor)		
<b>AII. ADVANCED NANOMATERIALS FOR ANODE MATERIALS</b> Chairman: Dr. Jian Yin, Co-Chairman: Dr. Aliya Mukanova				<b>BII. SENSOR MATERIALS AND TECHNOLOGIES</b> Chairman: Prof. Maksym Myronov, Co-Chairman: Dr. Amanzhol Turlybekuly				
<b>AII.1</b> 14 <sup>00</sup> -14 <sup>20</sup>	DOSSYM YESKOZHA Institute of Batteries LLP, RK	ENHANCED ELECTROCHEMICAL PERFORMANCE OF PHOSPHORUS-DOPED HARD CARBON ANODES DERIVED FROM UPCYCLED PET-BOTTLES FOR LITHIUM-ION BATTERIES	<b>BII.1</b> 14 <sup>00</sup> -14 <sup>20</sup>	Dr. GULNUR KALIMULDINA Nazarbayev University, RK	AI-DRIVEN SELF-POWERED TRIBOELECTRIC SENSORS FOR HEALTHCARE AND ROBOTICS APPLICATIONS			
<b>AII.2</b> 14 <sup>20</sup> -14 <sup>40</sup>	MUHAMMAD AWAIS JAMALI Nazarbayev University, RK	A PARAMETRIC STUDY ON SYNTHESIS OF Na <sub>2</sub> MNO <sub>2</sub> FOR ADVANCED Na-ION BATTERIES (SiBS) USING CUSTOM-BUILT ULTRASONIC SPRAY PYROLYSIS (USP) FRAMEWORK	<b>BII.2</b> 14 <sup>20</sup> -14 <sup>40</sup>	Dr. TILEK KUANYSHBEKOV East Kazakhstan University of S. Amanzholov, RK	APPLICATION OF GRAPHENE OXIDE-LIKE ACTIVATED CARBON MATERIAL AS A SENSING ELEMENT FOR HUMIDITY SENSORS			
<b>AII.3</b> 14 <sup>40</sup> -15 <sup>00</sup>	YESSIMZHAN RAIYMBEKOV National Laboratory Astana, RK	ELECTROCHEMICAL CHARACTERISATION OF RF SPUTTERED Co-, Li-DOPED ZnO NANOFILMS AS ANODE MATERIAL FOR LITHIUM-ION BATTERIES	<b>BII.3</b> 14 <sup>40</sup> -15 <sup>00</sup>	Dr. GANI YERGALIULY National Laboratory Astana, RK	ENHANCING GAS-SENSING PERFORMANCE OF TZO SENSORS THROUGH INTENSELY PULSED ION BEAM (PIB) TECHNIQUE			
<b>AII.4</b> 15 <sup>00</sup> -15 <sup>20</sup>	Dr. JIAN YIN Xinjiang Technical Institute of Physics & Chemistry, Chinese Academy of Sciences, China	A GENERAL STRATEGY ON BIOMASS-DERIVED HARD CARBONS FOR BOOSTING THE ENERGY DENSITIES OF Na-ION BATTERIES	<b>BII.4</b> 15 <sup>00</sup> -15 <sup>25</sup> INVITED	Prof. MAKSYM MYRONOV Department of Physics, Warwick University, UK	APPEARANCE OF THE HIGHEST MOBILITY HOLES IN A 2D SYSTEM EPITAXIALLY GROWN ON A SILICON WAFER			
			<b>BII.5</b> 15 <sup>25</sup> -15 <sup>45</sup>	YERNAR SHYNYBEKOV National Laboratory Astana, RK	Fe-DOPED SnO <sub>2</sub> BASED GAS SENSOR PRODUCED BY SILAR FOR ACETONE GAS SENSING			
<b>AII.5</b> 15 <sup>20</sup> -15 <sup>40</sup>	ORYNBASSAR MUKHAN Chungnam National University, South Korea	PRACTICAL INVESTIGATION OF Si ALLOY ANODE FOR HIGH-ENERGY Li-ION BATTERIES	<b>BII.6</b> 15 <sup>45</sup> -16 <sup>05</sup>	ASSEM MUBARAK Nazarbayev University, RK	QUENCHED PVDF/PMMA POROUS MATRIX FOR TRIBOELECTRIC ENERGY HARVESTING AND SENSING			
			<b>BII.7</b> 16 <sup>05</sup> -16 <sup>25</sup>	AIZHAN RAKHMANOVA Nazarbayev University, RK	ZnO-BASED COMPOSITE MATERIAL FOR GAS SENSOR APPLICATION			

16<sup>30</sup>-18<sup>30</sup> **COFFEE BREAK & POSTER SESSION**

Location: Block C2, M1 floor, left side from Turan entrance  
Chairman: Dr. Nurzhan Baikalov; Co-chairman: Dr. Baglan Bakbolat

Green hall (Block C2, 2 <sup>nd</sup> floor)		PARALLEL SESSIONS		Blue hall (Block C2, 2 <sup>nd</sup> floor)	
<b>AIII. ADVANCED NANOMATERIALS FOR Na-, K-, Zn-ION (METAL-ION) BATTERIES</b> Chairman: Prof. Seung-Taek Myung, Co-Chairman: Dr. Aishuak Konarov			<b>BIII. HYDROGEN STORAGE</b> Chairman: Dr. Anton Koskin, Co-Chairman: Dr. Fail Sultanov		
<b>AIII.1</b> 9 <sup>00</sup> –09 <sup>25</sup> INVITED	Dr. VALERY PETRYKIN Faraday Factory Japan LLC, Japan	DEVELOPMENT OF REEL-TO-REEL PRODUCTION OF 2G HTS WIRES FOR COMPACT FUSION APPLICATION AND ITS POSSIBLE UTILIZATION FOR MANUFACTURING OF ENERGY STORAGE MATERIALS	<b>BIII.1</b> 9 <sup>00</sup> –9 <sup>20</sup>	DARYA KONOVALOVA Federal Research Center Boraskov Institute of Catalysis, Russia	SYNTHESIS OF N-HETEROCYCLIC COMPOUNDS FROM RENEWABLE PLANT RAW MATERIALS AND THEIR USE AS LIQUID ORGANIC HYDROGEN CARRIERS
<b>AIII.2</b> 9 <sup>25</sup> –9 <sup>50</sup> INVITED	Dr. STANISLAV FEDOTOV Skolkovo Institute of Science and Technology, Russia	DESIGNING HIGH-VOLTAGE AND HIGH-POWER CATHODE MATERIALS FOR Na-ION BATTERIES	<b>BIII.2</b> 9 <sup>20</sup> –9 <sup>40</sup>	Dr. FAIL SULTANOV National Laboratory Astana, RK	GRAPHENE-LIKE POROUS CARBON DERIVED FROM BIOMASS FOR HYDROGEN STORAGE
<b>AIII.3</b> 9 <sup>50</sup> –10 <sup>00</sup> SPONSOR	ALEXANDER SHAFOROSTOV MN Labtech	THERMO FISHER SCIENTIFIC STEM ELECTRON DOSE MITIGATION WORKFLOW FOR ATOMISTIC INVESTIGATIONS OF CATHODE MATERIALS	<b>BIII.3</b> 9 <sup>40</sup> –10 <sup>00</sup>	Dr. ANTON KOSKIN Boraskov Institute of Catalysis, Russia	THE ORIGIN OF EXTRAORDINARY SELECTIVITY IN DEHYDROGENATION OF METHYLCYCLOHEXANE OVER NiSn CATALYSTS
<b>AIII.4</b> 10 <sup>00</sup> –10 <sup>25</sup> INVITED	Dr. WENLI ZHANG Guangdong University of Technology, China	CONSTRUCTION OF BETTER CARBON ANODES FOR K-ION BATTERIES BY DEFECT ENGINEERING	<b>BIII.4</b> 10 <sup>00</sup> –10 <sup>20</sup>	Dr. MAIRA KAZANKAPOVA LLP "Institute of Coal Chemistry and Technology", RK	PRODUCTION CARBON NANOMATERIALS BASED FROM BROWN COALS FOR HYDROGEN STORAGE

10<sup>25</sup>–10<sup>40</sup> **COFFEE BREAK** (Block C2, M1 floor)

Green hall (Block C2, 2 <sup>nd</sup> floor)		PARALLEL SESSIONS		Blue hall (Block C2, 2 <sup>nd</sup> floor)	
<b>AIII. ADVANCED NANOMATERIALS FOR Na-, K-, Zn-ION (METAL-ION) BATTERIES (cont.)</b> Chairman: Prof. Seung-Taek Myung, Co-Chairman: Dr. Aishuak Konarov			<b>BIV. PHOTOCATALYSIS, SOLAR ENERGY SYSTEMS, AND SUPERCAPACITORS</b> Chairman: Dr. Dowon Bae, Co-Chairman: Dr. Batukhan Tatykayev		
<b>AIII.5</b> 10 <sup>40</sup> –11 <sup>05</sup> INVITED	Prof. SEUNG-TAEK MYUNG Sejong University, South Korea	Na-O-A CONFIGURATION FOR OXYGEN REDOX OF SODIUM CATHODE	<b>BIV.1</b> 10 <sup>40</sup> –11 <sup>05</sup> INVITED	Dr. DOWON BAE Loughborough University, UK	SOLAR-RECHARGEABLE REDOX FLOW BATTERY: OPPORTUNITIES UNDER THERMAL LOADS
<b>AIII.6</b> 11 <sup>05</sup> –11 <sup>25</sup>	DMITRY AKSYONOV Skolkovo Institute of Science and Technology, Russia	SURFACE SEGREGATION OF METAL DOPANTS AT ELECTROCHEMICALLY ACTIVE SURFACE OF LAYERED OXIDE FOR Li-ION BATTERIES: A COMPUTATIONAL STUDY	<b>BIV.2</b> 11 <sup>05</sup> –11 <sup>25</sup>	NAZYM MAKANOVA National Laboratory Astana, RK	DEVELOPMENT OF LOW-TEMPERATURE SUPERCAPACITORS WITH BIO-WASTE DERIVED ACTIVATED CARBON AND SAFE ELECTROLYTES
<b>AIII.7</b> 11 <sup>25</sup> –11 <sup>50</sup> INVITED	Prof. SEOKGWANG DOO Korea Institute of Energy Technology, South Korea	TOWARD INITIALLY CHARGEABLE AQUEOUS Zn ION BATTERIES WITH HIGH ENERGY DENSITY AND LONG CYCLE LIFE	<b>BIV.3</b> 11 <sup>25</sup> –11 <sup>45</sup>	ALEKSANDRA BOLDYREVA Skolkovo Institute of Science and Technology, Russia	EXPLORING THE IMPACT OF F-RAYS ON STABILITY OF A WIDE BANDGAP PEROVSKITE
<b>AIII.8</b> 11 <sup>50</sup> –12 <sup>10</sup>	Dr. IRINA KUTOVAYA Skolkovo Institute of Science and Technology, Russia	ELECTROLYTES FOR SODIUM-ION BATTERIES WITH METAL ANODE	<b>BIV.4</b> 11 <sup>45</sup> –12 <sup>05</sup>	ABYLAY ABILKHAN National Laboratory Astana, RK	BISMUTH SULFIDE AS A CO-CATALYST IN THE G-C <sub>3</sub> N <sub>4</sub> /Bi <sub>2</sub> S <sub>3</sub> COMPOSITE FOR PHOTOCATALYTIC HYDROGEN EVOLUTION
<b>AIII.9</b> 12 <sup>10</sup> –12 <sup>30</sup>	NURAY ZHALGAS Institute of Batteries LLP, RK	POLYMER TEMPLATED ELECTROSPINNING TECHNIQUE FOR THE PREPARATION OF ONE-DIMENSIONAL NCA CATHODE MATERIALS	<b>BIV.5</b> 12 <sup>05</sup> –12 <sup>25</sup>	Dr. BAKHYTZHAN BAPTAYEV National Laboratory Astana, RK	HARNESSING THE ENERGY OF SUN BY COST-EFFECTIVE AND IMPROVED STABILITY DYE-SENSITIZED SOLAR CELLS
<b>AIII.10</b> 12 <sup>30</sup> –12 <sup>50</sup>	Dr. CHEN YANG Xi'an International Studies University, China	ENERGY AND COST ANALYSIS OF AUTOMOTIVE BATTERIES BASED ON LEARNING CURVE AND CONFIGURATION DESIGN	<b>BIV.6</b> 12 <sup>25</sup> –12 <sup>45</sup>	HENRY IDU Nazarbayev University, RK	EVALUATION OF INDOOR POWER PERFORMANCE OF EMERGING PHOTOVOLTAIC TECHNOLOGY FOR IOT DEVICE APPLICATION
			<b>BIV.7</b> 12 <sup>45</sup> –12 <sup>55</sup> SPONSOR	DMITRY PRONKIN NETZSCH	MODERN INSTRUMENTS FOR THERMAL ANALYSIS - NEW POSSIBILITIES: FROM QUALITY CONTROL TO THE DEVELOPMENT AND RESEARCH OF NEW MATERIALS WITH SPECIAL PROPERTIES

13<sup>00</sup>–14<sup>00</sup> **LUNCH BREAK** (Block C2, 3<sup>rd</sup> floor, Ballroom right)

Green hall (Block C2, 2 <sup>nd</sup> floor)		PARALLEL SESSIONS		Blue hall (Block C2, 2 <sup>nd</sup> floor)	
<b>AV. ELECTROLYTES AND BATTERIES</b> Chairman: Prof. Long Kong, Co-Chairman: Dr. Ayaulym Belgibayeva			<b>BV. MODELING TOOLS IN MATERIALS SCIENCE AND ENERGY CONVERSION SYSTEMS</b> Chairman: Prof. Sergey V. Levchenko, Co-Chairman: Dr. Yanwei Wang		
<b>AV.1</b> 14 <sup>00</sup> –14 <sup>15</sup>	Dr. ALTYNBEK NUKHULY Member of the Senate of the Parliament of the RK	THE 125 <sup>TH</sup> ANNIVERSARY OF GREAT KAZAKH SCIENTIST ACADEMICIAN KANYSH SATBAYEV	<b>BV.1</b> 14 <sup>00</sup> –14 <sup>20</sup>	Dr. ALEXANDR ARBUZ Nazarbayev University, RK	OBTAINING A VOLUMETRIC NANOSTRUCTURED STATE OF SOLID ZIRCONIUM ALLOY RODS BY METHODS OF SEVERE PLASTIC DEFORMATION
			<b>BV.2</b> 14 <sup>20</sup> –14 <sup>45</sup> INVITED	Prof. SERGEY V. LEVCHENKO Skolkovo Institute of Science and Technology, Russia	DATA-MINING APPROACH SUBGROUP DISCOVERY FOR NOVEL ENERGY MATERIALS DESIGN
<b>AV.2</b> 14 <sup>15</sup> –14 <sup>35</sup>	DAMIRA RAKHMAN National Laboratory Astana, RK	POLYACRYLAMIDE-BASED HYDROGEL ELECTROLYTE FOR MODULATING WATER ACTIVITY IN AQUEOUS BATTERY SYSTEMS	<b>BV.3</b> 14 <sup>45</sup> –15 <sup>05</sup>	POLINA BEZBORODOVA Chelyabinsk State University, Russia	EFFECT OF HYDROGEN ON FLOW STRESS IN AL-CU ALLOY: A MULTISCALE APPROACH
<b>AV.3</b> 14 <sup>35</sup> –15 <sup>00</sup> INVITED	Prof. YONG MIN LEE Yonsei University, South Korea	DIGITAL TWIN BATTERY MODELING AND SIMULATION	<b>BV.4</b> 15 <sup>05</sup> –15 <sup>25</sup>	Dr. DESMOND ADAIR Nazarbayev University, RK	REFORMING OF STEAM METHANE ANALYSIS
<b>AV.4</b> 15 <sup>00</sup> –15 <sup>25</sup> INVITED	Prof. LONG KONG Northwestern Polytechnical University, China	ELECTROLYTE SOLVATION CHEMISTRY FOR LOW TEMPERATURE LITHIUM BATTERIES	<b>BV.5</b> 15 <sup>25</sup> –15 <sup>45</sup>	Dr. ANNA KLINKOVA University of Waterloo, Canada	STRUCTURAL EFFECTS IN CATHODIC ELECTROCATALYSTS WITH COMPLEX NANOSCALE MORPHOLOGY
<b>AV.5</b> 15 <sup>25</sup> –15 <sup>45</sup>	Dr. OLGA SHMATOVA Skolkovo Institute of Science and Technology, Russia	BOOSTING ENERGY DENSITY WITH NOVEL FLUORINATED ELECTROLYTE FORMULATIONS	<b>BV.6</b> 15 <sup>45</sup> –16 <sup>05</sup>	MIRAT KARIBAYEV Nazarbayev University, RK	DEEP EUTECTIC SOLVENT SUPPORTED QUATERNIZED CHITOSAN HEAD GROUPS FOR ANION EXCHANGE MEMBRANES: INSIGHT FROM ATOMISTIC MODELING
<b>AV.6</b> 15 <sup>45</sup> –16 <sup>10</sup> INVITED	Prof. DONGHYUK KIM Ulsan National Institute of Science and Technology, South Korea	DEEP-LEARNING BASED MODELS TO ESTIMATE STATE OF HEALTH OF Li-ION BATTERIES			

16<sup>30</sup>–17<sup>00</sup> **AWARDING AND CLOSING CEREMONY**Location: Block C2, 3<sup>rd</sup> floor, Ballroom right

Chairman: Dr. Bakhtiyar Soltabayev and Dr. Nurzhan Umirov

17<sup>00</sup>–18<sup>30</sup> **GALA DINNER** (Block C2, 3<sup>rd</sup> floor, Ballroom right)**CULTURAL PROGRAM** (get tickets on the registration desk)10<sup>00</sup>–18<sup>00</sup> BALQARAGAI family forest zone