PROGRAM

mESC-IS 2023
7th International Symposium on Materials for Energy Storage and Conversion

INESS 2023
11th International Conference on Nanomaterials and Advanced Energy storage system

17-21 July 2023
Mugla Sıtkı Koçman University

	16th July 2023 (Sunday)
19:30 21:00	**Welcome reception** Meet at Akyaka Quay 19:30 Boat Tour from Akyaka to Cınar Beach
	17Th July 2023 (Monday)
09:00 18:30	**Registration**
09:30 10:00	**Opening Session** (open to public)
	Berke Pişkin, Local Orginizing Committe
	Tayfur Öztürk, Co-chair mESC-IS
	Zhumabay Bakenov, Co- chair INESS
	Turhan Kaçar, Rector, Mugla Sıtkı Koçman University
10:00 10:30	The NLV: A new ultra-fast charging technology for lithium ion batteries (online) S- **Rachid Yazami**
	Chair: Zhumabay Bakenov **Hall B**
10:30 11:00	Materials and Design for Solid State Batteries M-34 **Cengiz Ozkan**
11:00 11:30	Connecting solar- and wind electricity to the grid drastically increase interest in aqueous batteries M-15 **Dag Noréus**
11:30 12:00	Impedance and noise as non-invasive methods for lithium metal anodes M-36 **Burak Ulgut**
	Coffee Break

17th July 2023 (Monday)			
	Chair:**Aligül Büyükaksoy** **Hall C**	Chair: **Mihri Özkan** **Hall B**	Chair:**Batukhan Tatykayev** **Hall D**
12:20 12:45	Development of bolt-microtubular solid oxide fuel cells **M-147** Sezer Onbilgin, Tolga Altan, Cigdem Timurkutluk ve **Bora Timurkutluk**	The formation of residual Li compounds on Ni-rich NCM cathodes and their effect on the electrochemical performance in LPSCl-based ASSBs M-80 **Burak Aktekin**, Anja Henss and Jürgen Janek	Utilization of waste aluminum for hydrogen production and material recycling M-119 **Marius Urbonavicius,** Sarunas Varnagiris, Darius Milcius, Ainars Knoks and Peteris Lesnicenoks
12:45 13:05	Impact of spin coating rates on the surface chemistry and electrochemical performance evolution of (La,Ca)CoO3 solid oxide cell electrodes M-122 Mehmet Sezer , Ali Ahsen and **Aligul Buyukaksoy**	A Novel Approach Enabling Atomic Scale Characterization for Li-on Battery Components probed by Positron Annihilation Lifetime Spectroscopy (PALS) M-23 **Recep Bakar** , Süleyman Koç, Ayşe Yumak Yahşi and Uğur Yahşi	Effect of transition metal salts on the electrocatalytic properties of Ni-foam modified by ‘’Dip and Drying’’ method M-24 Evelina Slavcheva and Elitsa Petkucheva
13:05 13:25	Hysteresis effect reduction in printed and flexible perovskite solar cells with SnO2 quantum dot-based electron transport layers S-33 **Askhat Jumabekov**	The mixed ionic and electronic conductor LLZO solid electrolytes for lithium-ion battery cathodes M-132 **Semih Engün** , A.Uygar Şimşek, Betül Gür and Servet Turan	Machine learning analysis of photoelectrochemical water splitting M-69 **Burcu Oral** , Elif Can Özcan and Ramazan Yıldırım
13:25 13:45	Effect of porosity-graded (La,Sr)FeO3 –(Ce,Sm)O2 electrode layers on the long-term performance of solid oxide electrolysis cell under anodic polarization M-84 **Büşra Günhan** and Aligul Buyukaksoy	Coaxial Fiber-Shaped Highly Flexible Li-ion Battery for Powering Textile Electronics S-32 **Muniraj Vedikuyilazhagan**	Hydrogen processing as a way of producing fine metallic powders M-159 **Zeynep Ege Uysal**, Sertac Altinok, Y. Eren Kalay and Tayfur Ozturk

Lunch Break

	Chair:Bilge Saruhan-Brings Joint Session-II **Hall B**
16:45 17:10	Artificial-intelligence assisted search for best energy-conversion materials S-9 **Sergey V. Levchenko**
17:10 17:35	One-step fabrication of all-in-one flexible nanofibrous lithium-ion battery S-1 **Almagul Mentbayeva**
17:35 18:00	An investigation of the cathode electrolyte interphase (CEI) formation of Ni rich layered materials by Ni ion catalyzation: monolayer CEI formation from an oligomer S-8 **Fu Ming Wang**
18:00 18:30	Breakthrough in enhancement of hole mobility in strained germanium semiconductor leads to emergence of new class of quantum materials S-3 **Maksym Myronov**

	18th July 2023 (Tuesday)
	Chair: Fermin Cuevas Joint Session-III **Hall B**
10:00 10:30	Development of hydroxide ion conducting ionic liquids for non-humidified intermediate temperature alkaline-type fuel cells S-5 **Hirokazu Munakata**
10:30 11:00	Alkaline electrolyser for green hydrogen production: the nickel-based catalyst and separator M-68 **Gülfeza Kardaş**
11:00 11:30	Operando Monitoring and Insights for Hydrogen Production via Electrolysis M-87 **Begum Yarar Kaplan** , Ahmet Kırlıoğlu, Mohammad Alinezhadfar, Mohammed Ahmed Zabara, Naeimeh Rajabalizadeh Mojarrad, Bilal Sayyed Said
11:30 12:00	Materials for Fuel Cells and Electrolysis Technologies: Challenges and Perspectives M-10 **Selmiye Alkan Gürsel**
12:00	Coffee Break

	Chair: Ramiz Gültekin Akay **Hall C**	**Chair: Ali Sarı** **Hall B**	**Chair: Eli Grigorova** **Hall D**
12:20 12:45	Developments in the use of Functionalized Boron Nitride in Composite Membranes for PEM Fuel Cells Applications M-31 Huzaifa Mohammed Adam Harameen , **Ramiz Gültekin Akay** and Shokrullah Hussaini	Matching Electrochemical Properties and Phase Transformations in NASICON-type Electrode Materials for Na-ion batteries S-25 **Maxim Zakharkin**	Influence of atomic configuration on popular descriptors for oxygen evolution reaction on complex transition-metal oxide catalysts S-29 **Dina Mazitova**
12:45 13:05	Nitrogen-doped graphene oxide as innovative catalysts for PEM Fuel Cells M-83 **Adriana Marinoiu** and Elena Carcadea	Investigation of the Mechanisms of Polaron Conduction in Cathode Materials of Na and K-Ion Batteries. S-23 **Olga Kovaleva**	Fabrication of Ordered Mesoporous Nickel Oxide Based Thin Film Electrodes and Their Electrochemical Properties M-64 **Assel Amirzhanova** and Ömer Dağ
13:05 13:25	Bibliometric Analysis of Photocatalytic CO2 Reduction M-77 **Pınar Özdemir** and Ramazan Yıldırım	Key aspects for the development of hard carbon anode materials with advanced performance in sodium-ion batteries S-37 **Zoya Bobyleva**	Development of Z-scheme Heterojunctions for Photocatalytic Hydrogen Production M-146 **Çağla Ünal**, İhsan Emre Yiğiter and Fatih Pişkin
13:25 13:45	Nitrogen-Doped Electrocatalyst from Tangerine Peels-Derived Biochar for Energy Storage and Conversion Applications M-29 **Hilal Doğan** , Tuğba Meşeli, Gamze Genç and Gülşah ELDEN	Investigation of Charged Germagraphene as a Cathode Material for Dual-Carbon Batteries M-60 Burcu Üçok and Taner Akbay	Potential reuse of the Pd-Cu-BTC for reductive sorption of aqueous Hg(II) by thermal desorption technique S-16 **Nurbek Nurlan**
Lunch Break			

18th July J2023 (Tuesday)			
	Chair: Hasan Göçmez **Hall C**	**Chair:Jasmina Grbović Novaković** **Hall B**	**Chair: Damla Eroğlu Pala** **Hall D**
15:00 15:25	Synthesıs and Characterizatıon of Nanocrystallıne Calcıum Hexaboride Powders as a Supercapacıtor Anode Component M-4 **Hasan Göçmez**	Experimental studies and DFT modeling of hydrogen sorption behaviour of Mg-based nanostructured composites and nanosized clusters M-115 **Pavel Fursikov** , Oleg Charkin, Valentin Fokin, Evelina Fokina, Alexei Volodin, Artem Arbuzov, Mykhaylo Lototskyy, and Boris Tarasov	Cathode Active Material Synthesis and Battery Performance Tests for Li-ion Batteries from Domestic Raw Materials M-120 Hilal Seda Kutluata , **Melih Ozduran**, Emre Kacaner, Nuray Demirel, Yigit Altinsel and Orhan Yilmaz
15:25 15:45	Facile Synthesis of Cross-Linked Carbon Nanofiber Derived from PAN/Thiourea/Aluminum acetate as Supercapacitor Electrode M-133 **Ümran Kurtan** and Serkan Naci KOÇ	Hydrogen storage materials on the basis of Ti–Fe alloys: state-of-the art and perspectives M-100 **Mykhaylo Lototskyy** , Valentin Fokin, Fokina Evelina, Artem Arbuzov and Boris Tarasov	Synergistic effect of Ni/TiO2 heterostructures on performance enhancement of lithium-sulfur batteries S-12 **Nurzhan Baikalov**
15:45 16:05	Production of a ZnS-based Supercapacitor Electrode Material Recovered from the Electric Arc Furnace Dust Waste M-123 **Ozan Aydin** , Burak Birol and Metin Gwnçten	(Bi)Metallic amidoboranes – synthesis, characterisation and perspective for hydrogen storage M-88 **Igor Milanovic** and Nikola Biliškov	Nonosized LiFePO4 manufacturing by ball-milling synthesis for Li-ion batteries S-36 **Batukhan Tatykayev**
16:05 16:25	Recovery of Cobalt as CoS from Spent Li-ion Batteries and investigation of Supercapacitor performance of its composite with Cl-doped Graphene Oxide M-91 **Sezgin Yaşa**, Burak Birol, Metin Gençten	A novel flat coil heat exchanger for metal hydride-based hydrogen storage reactor M-145 Venkata Krishna K and Prakash Maiya	ChCl:EG based solvometallurgical extraction of cathode active powder from spent lithium-ion batteries M-78 **Elif Güloğlu** , Mert Zorağa and Gökhan Orhan
Coffee Break			

	Chair: Duncan Paul Fagg Joint Session-IV **Hall B**
16:45 17:10	Carbon capture and the status of direct air capture Technologies M-35 **Mihri Ozkan**
17:10 17:35	Charge transport kinetics at a cathode-solid electrolyte interface studied by μ-cavity electrode S-11 **Sung Soo Kim**
17:35 18:00	Improving electrochemical performances of sulfide-based solid battery by understanding and designing interface of cathode/electrolyte S-6 **Lianqi Zhang**
18:00 18:30	Phosphate cathode materials for lithium-ion batteries: on the way from LiFePO4 to LiMnPO4 M-7 **Oleg Drozhnhin**

	19th July 2023 (Wednesday)
	Chair: Selmiye Gürsel Alkan Joint Session-V **Hall B**
10:00 10:30	Surface characteristics and advanced electrocatalytic properties of oxophilic metal modified rutile composite supported platinum electrocatalysts M-22 **András Tompos**
10:30 11:00	Transition metal nitrides in ammonia production: Challenges and Possible Solutions M-124 Vanessa C.D. Graça, Francisco J.A. Loureiro, Laura I.V.Holz, Sergey M. Mikhalev and **Duncan Paul Fagg**
11:00 11:30	Photocatalytic CO2 reduction M-70 **Ramazan Yıldırım**
11:30 12:00	Energy Conversion in Solid Oxide Cells: Gaining In-Depth Understanding through Model Experiments M-17 **Alexander Opitz**

	Chair: Mehmet Nurullah Ateş **Hall C**	**Chair: Aliya Mukanova** **Hall B**	**Chair: Müslüm Demir** **Hall D**
12:20 12:45	Direct Electroplating of Active Materials for Batteries: No Binder, No Carbon, No Slurry Processing M-102 **Mehmet Nurullah Ateş**	Towards Lithium-Sulfur Microbatteries: Challenges and Recent Progress S-10 **Aliya Mukanova**	NbB2 as a promising electrode material for supercapacitors with high electrochemical performance M-129 **Müslüm Demir** , Hamide Aydın, Burcu Üstün, Ümran Kurtan, Serkan Naci koç and Eda Akgül
12:45 13:05	Li migration and charge transfer through Li/Li 7 La 3 Zr 2 O 12 interfaces under constant-charge conditions S-28 **Arseniy Burov**	Experimental characterization of the effect of the electrolyte-to-sulfur ratio on the Li-S battery performance for different electrolyte systems M-81 **Ayça Firtin** , Kağan Yüksel, Elena Karaseva, Elena Kuzmina, Vladimir Kolosnitsyn and Damla Eroglu Pala	MXene-coated cotton fabrics for wearable supercapacitors M-79 **İnal Duygun**, Burak Küçükelyas and Ayşe Bedeloğlu
13:05 13:25	Optimization of electrochemical performance of NMC cathode via adjacent synthesis and test protocols M-106 Svitlana Krüger, **Bilge Saruhan-Brings,** Emre Guney and Neslihan Yuca	Biomass-derived porous carbon decorated with NiO nanoparticles for lithium-sulfur batteries S-34 **Fail Sultanov**	Understanding the Solvent Effect in Slit-pore Supercapacitor Models using Molecular Modelling M-130 **Ayse Hafsa Dogan** , Yağiz Efe Korkmaz and Betul Uralcan
13:25 13:45	Application of steel slag as sensible thermal energy storage for continuous operation of a waste heat energy reuse plant S-30 **Jaime Lozano Carmona**	Comparison of 0-D vs 1-D electrochemical models to predict the impact of electrolyte properties on lithium-sulfur battery performance M-82 **Kağan Yüksel** , Ayca Firtin, Elena Karaseva, Elena Kuzmina, Vladimir Kolosnitsyn and Damla Eroglu Pala	Marine mucilage-based SiO2/C nanocomposite for supercapacitors: transforming untapped bioresources into value-added products M-94 **Neriman Sinan Tatlı**, Mete Yilmaz and Ece Unur-Yilmaz
13:45 16:45	Lunch Break and Poster session		

	19th July 2023 (Wednesday)
19th July 2023 (Wednesday) Poster Session	**Chairs: Aliya Mukanova** and **Berke Pişkin** **Poster Session** **Main Hall**
	Energy saving and energy efficiency: Modern experience in Uzbekistan and foreign countries S-64 **Parakhat Matyakubova**
	Atomic structures for ABO3 perovskite S-58 **Zhadyra Zakiyeva**
	Research of hybrid perovskite – low dimensional materials S-56 **Balzhan Satanova**
	Evaluating the performance of various designs in solar cells S-54 **Erik Shalenov**
	The layer-by-layer study of spectral and luminiscent propeties of nanostructures in silicate slide glass S-45 **Pavel Bezrukov**
	Friction and wear characterization of Si3N4 – SiC nanocomposite ceramic S-39 **Amine Charfi**
	Effect of Ultrasonic Probe Power on the Production of Hexagonal Boron Nitride Nanoplates S-63 Lutfullah Mucahit Dogdu
	Effect of NH4F additive on the electrical properties of nanosized tin dioxide films obtained from lyophilic and lyophobic film-forming systems S-43 **Sayora Ibraimova**
	Friction and wear characterization of Si3N4 – SiC nanocomposite ceramic S-39 **Amine Charfi**
	Quantum efficiency of photocatalytic sea water splitting by Ag-AgI nanostructures S-44 **Pavel Bezrukov**
	Effect of A-site dopant on hydrogen La1-xMxAl1-yMny (M=Na and Sr) perovskite oxides for thermochemical water splitting applications M-112 **Müzeyyen Özdemir** and Berke Piskin
	Electrochemical fabrication and reductive Li-doping of TiO2/ERGO nanocomposite as photoanode for photoelectrochemical water-splitting M-155 **Zeynep Başaran Yılmaz** , Ekin Akyürek and Ümit Demir
	Enhanced visible light photoactivity of Magnesium-doped TiO2/ERGO nanocomposite electrodes for efficient photoelectrochemical water splitting M-156 **Ekin Akyürek,** Ebru Turgıt Him and Ümit Demir
	Electrocatalytic Properties of Sb2Se3 Thin Films in Water Electrolysis M-30 Vusala Majidzade , Sevinj Javadova, Samira Jafarova, **Akif Aliyev** and Dilgam Tagiyev
	Hydrogen Generation by Hydrolysis of Novel Mg-Based Composites M-52 Ihor Zavaliy , Vasyl Berezovets, Andriy Kytsya, Oleksandr Kononiuk and Volodymyr Yartys
	Hydrogen evolution reaction from brass nanostructures M-95 **Tijana Pantić**, Anđela Mitrović Rajić, Sanja Milošević Govedarović,Igor Milanović, Anna M. Brudzisz, Damian Giziński, Wojciech J. Stępniowski, Jasmina Grbović Novaković
	XPS studies of copper oxides as catalysts for hydrogen generation M-96 **Anđela Mitrović Rajić**, Tijana Pantić, Sandra Kurko, Milutin Ivanović, Anna M. Brudzisz , Damian Giziński , Wojciech J. Stępniowski , Jasmina Grbović Novaković
	Development of High Entropy Perovskite Oxides for Thermochemical Water Splitting M-128 Hakan Yüce , **İhsan Emre Yigiter,** Berke Piskin, Fatih Pişkin and Gülhan Çakmak
	Investigation of capacitive and photocatalytic properties of FTO-ERGO/TiO2/Al nanocomposites for energy applications M-157 **Ebru Turgıt Him**, Zeynep Selin Başaran Yılmaz and Ümit Demir
	X 2 FeSi Heusler alloys: A Promising Class of Magnetic Materials S-57 **Merali Nurpeiis**

19th July 2023 (Wednesday) Poster Session	Machine learning exploration of the bonding in metal hydrides M-66 **Bojana Paskaš Mamula** , Katarina Batalović, Mirjana Medić Ilić, Bojana Kuzmanović and Jana Radaković
	Innovative electrodes for PEM fuel cells based on graphene materials M-89 **Adriana Marinoiu**
	Kinetic behavior of MgH2-transition metal composites: towards hydrogen storage M-98 Zorana Sekulić, Bojana Babić, Milica Prvulović, Igor Milanović, Katarina Tošić, Vanja Asanović, Nikola Novaković, Sanja Milošević Govedarović, **Jasmina Grbović Novaković**
	Protective coatings based on CrN for current collector materials of molten carbonate fuel cells M-86 **Viktoriya Podhurska** ,Yaroslaw Milewski , Olexsander Kuprin[3] and Olena Reshetnyak
	Development of High Entropy Oxides for Use in Solid Oxide Fuel Cells M-125 **Merve Durmuş** , Hakan Yüce, Berke Piskin, Fatih Pişkin and Gülhan Çakmak
	Development of titanium-based porous composites for anode substrates of solid oxide fuel cells M-105 **Viktoriya Podhurska**, Dmytro Brodnikovskyi, Mykola Gadzyra, Bogdan Vasyliv, Yehor Brodnikovskyi, Serhii Lavrys, Orest Ostash, Oleksandr Vasylyev, Bora Timurkutluk
	A co-doping strategy for improving the physicochemical properties of Ba1-xMgxCe0.7Zr0.1Y0.1Yb0.1O3 or Ba1-xSrxCe0.7Zr0.1Y0.1Yb0.1O3 samples as components of reversible ceramic fuel cells M-137 Magdalena Dudek , Piotr Dudek and Andrzej Hudecki
	Electrospun PCL (Polycaprolactone) Nanofibers and Their Reinforced Composites: Preparation, Modification, Applications, and Perspectives M-148 **Hulya Kara Subasat**, Fatma Kuru, Ozay Eroglu, Hanife Sevval Dere, İbrahim Samet Tunca
	The Thermomechanical Effect on Laminated Plate Structures by Comparing the Bending Response M-19 Mankour Mohamed and Berrabah Hamza Madjid
	Investigations of activated carbon from different natural sources for preparation of binder-free Few-walled CNTs/activated carbon electrodes S-46 **Tolganay Atamanova**
	Electrospun Activated Carbon (AC) and Polyacrylonitrile (PAN) Nanofibers for Supercapacitor Electrodes M-149 **Fatma Kuru**, Serdar Gokce, Ozay Eroglu, Afike Ayca Ozen, Sema Aslan, Siti Nadiah Abdul Halim and Hulya Kara Subasat
	TiO2 nanotube-based solar cell combined with electrochemical capacitor M-58 Shikhamir Eminov**, Akif Aliyev**, Samira Abdullayeva, Aysel Karimova,Vusala Majidzadeh,Khuraman Jalilova,Ilgar Gurbanov, Jafar Guliyev, Gultekin Mammadova, Aliovsat Aliyev
	Electrochemical Properties of Polytetrafluoroethylene (PTFE) Encapsulated in Polyvinylalcohol (PVA) Nanofibers and Their Supercapacitor Application M-150 **Ozay Eroglu**, Fatma Kuru, Afike Ayca Ozen, Sema Aslan, Siti Nadiah Abdul Halim, Hulya Kara Subasat
	Electrospun Cellulose Acetate (CA) and Polyvinylidene Fluoride (PVDF) Nanofibers for Supercapacitor Applications M-151 **Ibrahim Samet Tunca**, Fatma Kuru, Ozay Eroglu, Afike Ayca Ozen, Sema Aslan, Siti Nadiah Abdul Halim and Hulya Kara Subasat
	Electrospun Silicon Dioxide (SiO2) and Polyvinylidene Fluoride (PVDF) Nanofibers for Supercapacitor Electrodes M-152 **Hanife Sevval Dere,** Fatma Kuru, Ozay Eroglu, Afike Ayca Ozen, Sema Aslan, Siti Nadiah Abdul Halim and Hulya Kara Subasat
	Electrochemical Properties of Electrospun Metal-Organic Frameworks (MOFs) Nanofibers as New Hybrid Electrode Materials for Supercapacitor Applications M-153 **Siti Nadiah Abdul Halim,** Ozay Eroglu , Fatma Kuru, Afike Ayca Ozen , Sema Aslan and Hulya Kara Subasat
	Development of Metal Organic Framework Modified Carbon Paste Electrode for Supercapacitor Applications M-154 **Afike Ayca Ozen**, Sema Aslan, Fatma Kuru, Ozay Eroglu, Siti Nadiah Abdul Halim and Hulya Kara Subasat
	Synthesis and Characterization of MoB Electrode Material for Electrochemical Energy Storage M-134 **Hamide Aydın** , Burcu Üstün, Ümran Kurtan, Serkan Naci Koç, Eda Akgül and Müslüm Demir

	Versatile Organic Electrochromic Energy-Storage Materials and Devices Based on Nonylbithiazole, 3,4-Ethylenedioxythiophene and Gold Nanoparticles M-117 **Sema Topal**, Belkıs Ustamehmetoğlu and Esma Sezer
	Investigation of various aqueous electrolytes on the electrochemical characteristics of supercapacitors based on activated carbon S-40 **Alua Abenova**
	Role of Ni and Fe redox activity in electrochemical properties of O3-NaFe1-x-yNixMnyO2 materials as cathodes for Na-ion batteries S-67 **Vitalii Shevchenko**
19th July 2023 (Wednesday) **Poster Session**	Design of a system for controlled ionic transportation and precise manufacturing of 2D hybrid materials via AFM M-127 Onur Ergen , Süreyya Kaykusuz, Yaren Sezen and Sevil Berrak Şentürk
	Rational design of iron nitride/carbon cloth electrode as an anode for asymmetric supercapacitors M-85 **Adam Moyseowic**z , Karolina Kordek-Khalil and Agata Moyseowicz
	Effect of molar ratios of Ni, Mn, and Fe on structural stability and electrochemical performance of layered cathode materials for sodium-ion batteries S-59 **Maksat Karlykan**
	Effect of Fe-subtitution on electrochemical performance of Mn-based Prussian blue as cathode material for sodium ion batteries M-113 Şaban Patat, Yakup Yılmaz and **İbrahim Kabak**
	Review Study: Possibility of Production of Carbonate Precusors for LCO and NMC Lithium ion batteries from LCO, NMC, and LMO Spent M-32 **Huzaifa Mohammed Adam Harameen** and Shokrullah Hussain
	One-pot synthesis of free-standing LiCoPO4/C composite nanofibers as high- voltage cathode materials for lithium-ion batteries S-41 **Ayaulym Belgibayeva**
	Effect of Transition Metal Doping on the Electrochemical Performance of NCM811 Cathodes S-42 **Adil Abduakhanov**
	Co-precipitation synthesis of spherical chromium-based layered oxide cathodes for sodium-ion batteries S-48 **Maria Makarova**
	Development of gradient-doped and heterostructured LiNi0.5Mn1.5O4 as cathode material for lithium-ion batteries M-114 Zahid Sarıgöl
	Study of the electrochemical properties of high voltage LiCoPO4 cathodes via solution combustion synthesis M-135 **Semih Engün** , Ezgi Beyda Kamacı, Muhammet Ali Arslan, Ezgi Yılmaz, Tayfun Koçak, Redouan El Khalfaouy and and Servet Turan
	Preparation of an ion-conductive LATP-based electrolyte thin film for lithum- ion microbatteries S-49 **Mukagali Yegamkulov**
	Development and Characterization of Perovskite Based Solid Electrolytes for Solid-State Lithium-Ion Batteries M-138 **Ramin Jahangirov** and Berke Piskin
	The synthesis of hard carbon anode material for sodium-ion batteries via hydrothermal carbonization. S-62 **Grigorii Lakienko**
	Origins of irreversible capacity loss in hard carbon negative electrodes for potassium-ion batteries S-51 **Natalia Katorova**
	The formation of carbon fiber with embedded red phosphorus nanoparticles as an anode for li-ion batteries S-53 **Yelnury Baltash**
	The synthesis of hard carbon anode material for sodium-ion batteries via hydrothermal carbonization. S-62 **Grigorii Lakienko**
	Current collector-free printed three-dimensional MXene-based anodes for lithium-ion batteries S-50 **Emmanuel Chisom Nwaogu**

19th July 2023 (Wednesday) **Poster Session**	Synthesis of NiO Thin Film Electrodes via RF Magnetron Sputtering for In-Plane 3D Thin Film Batteries S-55 **Aliya Mukanova**
	Mixed Niobium Phosphates as Negative Electode Materials for Metal-ion Batteries S-61 **Ilia Cherkashchenko**
	Exploring tailored carbon-coated tin nanomaterials as anode for Li-ion batteries **M-109** **Aylin Elçi** Emren Nalbant and Tayfur Öztürk
	In Situ Synthesis of Reduced Graphite Oxide-Li2ZnTi3O8 Composite As a High Rate Anode Material for Lithium-ion Batteries M-121 Süleyman Yıldız, Halil Şahan, Şaban Patat and **İbrahim Kabak**
	First principles insights on lithium decorated-Ge nanowires for energy storage M-21 Miguel Cruz Irisson and Miguel Cruz.Irisson
	Current collector-free printed three-dimensional MXene-based anodes for lithium-ion batteries M-53 Alisher Kumarov , **Emmanuel Chisom Nwaogu**, Alnur Zhumadil , Zhumabay Bakenov
	Synthesis and Study of Composite Aerogels Based on Graphene Oxide and MXene for Lithium-Sulfur Batteries S-52 **Mukhammed Kenzhebek**
	A large format and high performance aqueous rechargeable LiFePO4/Zn battery for stationary energy storage S-65 **Nurzhan Umirov**
	Carbon nanofibers/reduced graphene oxide aerogels – investigations of the nanofibers loading on the electrochemical performance in aqueous electrolyte M-136 **Adam Moyseowicz** , Dagmara Cieślak and Agata Moyseowicz
	Search for New Cathode Compositions for Mildly Acidic Zn-MnO2 Batteries M-51 Yiğit Akbaş, **Necdet Özgür Darıcıoğlu** and Tayfur Öztürk
	Activation of MnO 2 Cathode Materials for Alkaline Zn/MnO 2 Rechargeable Batteries **M-158** **Engin Serin,** N. Ozgur Darıcıoglu and Tayfur Ozturk
	A temporal study of the ionic behavior during an electrical charge/discharge cycle in an electrolytic capacitor with carbone nanotubes M-56 **Jami Torki** and Ali Sari
	Temperature-Dependent Electrochemical Impedance Spectroscopy (EIS) of Li/MnO2 Batteries M-54 **Gökberk Katırcı,** Fazlı Eren Civan, Mohammed Zabara and Burak Ülgü
	Can The Fundamental Physical Constants Be Obtained via Fitting Temperature Dependent Nonlinear EIS Data? M-57 **Fazlı Civan** , Gökberk Katırcı and Burak Ülgüt

19th July 2023 (Wednesday)	
	Chair: Ramazan Yıldırım Joint Session-VI **Hall B**
16:45 17:10	Solid polymer electrolytes for future energy storage devices M-108 **Bilge Saruhan-Brings**
17:10 17:35	Ionic Liquid Screening for Li-S Batteries M-71 Aysegul Kilic , Omar Abdelaty, Ramazan Yıldırım, Alper Uzun and **Damla Eroglu Pala**
17:35 18:00	Modelling Lithium Transport in Intercalation-type Active Materials Suitable for Transportation Applications S-20 **Desmond Adair**
18:00 18:30	Energy Storage Systems From Cell Manufacturing to Battery Pack M-144 Neslihan Yuca

20h July 2023 (Thursday)	
	Chair: Dag Noreus **Joint Session-VI** **Hall B**
10:00 10:30	Reversibility of solid-gas and electochemical hydrogenation of Ti-based AB-type alloys studied by in-situ neutron diffraction M-139 **Fermin Cuevas**
10:30 11:00	Metal hydride — carbon composites: advanced materials for hydrogen energy technologies M-99 **Mykhaylo Lototskyy**, Artem Arbuzov, Pavel Fursikov, Alexey Volodin and Boris Tarasov
11:00 11:30	Development of Room Temperature Na-S and Na-Se Batteries: What Lessons Learned from Li-S Chemistry M-6 **Rezan Demir-Çakan**
11:30 12:00	Novel vanadium-based phosphates as sodium-ion battery positive electrodes S-7 **Stanislav Fedotov**
Tea Break	

	Chair: Arailym Nurpeissova **Hall C**	**Chair: Gülhan Çakmak** **Hall B**	**Chair: Hülya Kara Subaşat** **Hall D**
12:20 12:45	Improving the performance of Li/graphite half cells at low temperatures through the modification of electrolyte S-4 **Arailym Nurpeissova**	Promising anode materials for Ni-MH batteries and alkaline fuel cells M-118 **Alexei Volodin** , Alexander Lapshin, Ilya Yakushin, Boris Tarasov and Mykhaylo Lototskyy	PEDOT:PSS modified graphite electrodes developed for electrochemical monitoring of interaction between cyanotoxin and DNA M-140 **Ece Kesici Meço**
12:45 13:05	Correlation between volume expansion and electrode density of Si-Alloy@Graphite composite anode: In-situ Dilatometry Study S-38 **Orynbassar Mukhan**	Search for Cobalt Free Ni(OH)2 Cathodes for NiMH Batteries M-49 **Necdet Özgür Darıcıoğlu** and Tayfur Öztürk	Design of Highly Selective 2-D Plasmonic Hydrogen Sensors by Tunable Porous Metal Oxide Layers M-131 **Erdem Deniz** and Zafer Say
13:05 13:25	Synthesis of Ni2P/C nanofibers as anode materials for lithium-ion batteries S-18 **Gulderaiym Turarova**	Optimization of hydrogen storage reactor incorporating heat transfer fluid and phase change material: A numerical analysis M-142 Ankush Shrivastav and Prakash Maiya	Experimental HF Analysis of the Energy Efficiency of an Energy Transformer M-18 M Mohamed , M Mohamed and M Houcine
13:25 13:45	Synthesis of tin phosphide/phosphate carbon composite nanofibers as low- temperature anode for lithium-ion batteries S-27 **Ayaulym Belgibayeva**	Development of multi-component Mg-based AB alloy for Ni-MH Batteries M-126 **Hakan Yüce** , Eli Grigorova, Berke Piskin, Fatih Pişkin and Gülhan Çakmak	Study of an HVDC Link Connected to HVAC Link: Modelling, Discussion and Perspective M-20 M Mohamed and Mohamed
Lunch Break			

20h July 2023 (Thursday)			
	Chair: Gulnur Kalimuldina **Hall C**	**Chair: Fail Sultanov** **Hall B**	**Chair: Igor Milanovic** **Hall D**
15:00 15:25	SnSe anode materials for low temperature lithium-ion batteries S-2 Aiym Rakhmetova, Ayaulym Belgibayeva, **Gulnur Kalimuldina**, Arailym Nurpeissova, Zhumabay Bakenov	Metal hydride H2 storage and compression units with low suction pressure M-101 Boris Tarasov , Artem Arbuzov, Alexey Volodin, **Pavel Fursikov**, Wafeeq Davids, Joshua Adeniran and Mykhaylo Lototskyy	The elemental cocktail effect of high-entropy spinel oxides on the electrocatalytic performance of zinc-air battery cathode M-63 **Tuncay Erdil** and Cigdem Toparlli
15:25 15:45	The buckwheat-derived hard carbon as anode material for lithium-ion batteries S-31 **Uldana Kydyrbayeva**	Novel High-Pressure Metal Hydride Container for Hydrogen Compression M-75 **Wafeeq Davids**, Mykhaylo Lototskyy and Siva Pasupathi ,V. Linkov	The Effect of B-site Doping on NdBaCoaFe2-aO6 (a= 1.8, 1.6, 1.4, 1.2) for Enhanced OER/ORR Activity and Rechargeable Zinc- Air Battery Performance M-62 **Çağla Özgür** and Çiğdem Toparlı
15:45 16:25	Computational study of Li segregation and diffusion at grain boundaries in Cu: implications for Li-ion current collectors S-26 **Dmitry Aksyonov**	Hydrogen storage properties of Mg-Ni-Al-V-Ti alloy prepared via ball milling M-67 **Eli Grigorova** ,Gülhan Çakmak, Pavel Markov and Peter Tzvetkov	Carbon-based cathodes for non-alkaline Zn-air batteries: structure- performance relations and stability S-24 **Roman Kapaev**
16:25 16:45	Life cycle assessment (LCA) of water treatment sludge disposal methods S-21 **Alisher Alibekov**	Development of a design tool for a metal hydride based hydrogen storage system for underwater applications M-107 **Berna Sezgin**,Tayfur Ozturk and Inci Eroglu	The Effect of Coating Pressure on the Formation of Macro Particles in TiN Thin Film Coatings M-141 **Enis Uçar**
	Social Program 16:45 :23 30 Depart from Sıtkı Koçman University for Dalyan Boat Tour to Iztuzu Beach Symposium Dinner at Alegria Restaurant		

21st July 2023 (Friday)			
	Chair: Barun Chakrabarti **Hall C**	**Chair: Adriana Marinoiu** **Hall B**	**Chair:Nurzhan Umirov** **Hall D**
10:00 10:25	Performance of a Homemade Vanadium-Manganese Redox Flow Battery using Electrospun Carbon Electrode Catalyst and its Preliminary System Integration M-90 **Barun Chakrabarti**, J. Rubio-Garcia Mengzheng Ouyang Metin Gencten, Zhiming Yan, Yashar S. Hajimolana, Abhishek K. Singh, Abu Yousuf , Pejman Kazempoor, Chee, Tong John Low, Yucel Sahin and Nigel P. Brandon	Development of Au Coated 3D Printed SS316L Gas Diffusion Layers for PEM Water Electrolyzer Anode M-28 **Murat. Kıstı** , Emre Özdoğan and Memhmet Fatih KAYA	Removal of aqueous Hg(II) using ZIF (Zeolitic Immidalozate Framework) derived Co@NC S-22 **Meiirzhan Nurmyrza**
10:25 10:45	Significance of Electroactive Material Selection in Suspension Based Electrochemical Energy Storage Systems M-93 **Bayram Yıldız**, Yasemin Aşkar, Elif Coşkun, Bora Maviş, and Simge Çınar Aygün	Electrode development for nitrate reduction and ammonia production with Lithium mediated materials M-111 **Mert Can Korkutan** and Sarp Kaya	Temperature and laser power dependencies of LiCoO2 Raman spectra M-74 **Alexander Ryabin**, Aleksander Krylov Svetlana , Krylova, Evgeny Kiselev and Dmitry Pelegov
10:45 11:05	Investigating the Impact of Dip Coating on the Performance of Graphene Nanoplatelet-Coated Electrodes with Cellulose Binder for Organic Flow Batteries M-116 **Taha Yasin Eken**, Cantekin Kaykılarlı, Ali Tuna, Pekka Peljo, Ebru Devrim Şam Parmak, Deniz Uzunsoy	Machine learning analysis of photocatalytic CO2 reduction on perovskite materials M-110 **İrem Zırhlıoğlu** and Ramazan Yıldırım	Hysteresis effect reduction in printed and flexible perovskite solar cells with SnO2 quantum dot-based electron transport layers S-33 **Askhat Jumabekov**
11:05 11:25	Synthesis of materials with a hierarchical structure based on tin dioxide S-17 **Ekaterina Bondar**	Analysis of Data from Published Articles for Photocatalytic CO2 Reduction over Halide Perovskites M-65 **Beyza Yılmaz** and Ramazan Yıldırım	Light scattering geometry for Raman spectroscopy measurements. The case of lithium iron phosphate microparticles M-72 **Alexander Ryabin**, Semyon Melnikov, Mikhail Kosobokov and Dmitry Pelegov
Short Break			
	Chair: Kadri Aydınol Energy Storage and Conversion -Status and Outlook (open to public)		
11:35 11:55	Kazakhstan State Program on Advanced Materials for Energy Storage S-15 **Zhumabay Bakenov**		
11:55 12:15	Road Map for Hydrogen and Fuel Cell-Türkiye M-158 **Yasemin Polat** and Celal Erbay		
12:15 12:35	Design and manufacturing of Battery Cells - Aspilsan Perspective **Ahmet Altınay**		
12:35 12:55	Batteries for Grid Energy Storage M-160 **Uğur Kazancıoğlu**		
	Tea Break		
	Chair: Tayfur Öztürk Closing Session **Hall B**		
13:10 14:40	Presentations regarding upcoming events **Fermin Cuevas** MH2024- moved to Thursday Morning 10:25 **Akif Alyev**-mESC-IS 2024 **Zuhmabay Bakenov**- INESS 2024 **Ramiz Gültekin Akay**-mESC-IS 2025 **Jasmina Grbovic Novakovic** mESC-IS 2026		
14:40	**Poster Awards**		