	mESC-IS 2017 Program
	September 25 th Monday 2017
14.00 -20.00	Registration
18:00- 20 00	Welcome Reception

	September 26th Tuesday 2017			
08 30 : 17 30	Registration			
08 45 : 09 00	Opening Session			
09 00-9 30	Hall Nissa Chair: Vlodymyr Yartys Topics in alkaline batteries: MH-, Fe-, Zn-anodes and Ni-, Air-, MnO2-cathodes (108) Mylad Chamoun, Yang Shen and Dag Noréus			
09:30- 10:00	Nanocarbon Composite Electrodes: Synthesis and Application for Li-Ion Batteries (100) Hatem Akbulut, Mahmud Tokur, Aslihan Guler, Seyma Ozcan and Mehmet Oguz Guler			
10:00- 10:30	Li-S Batteries Beyond the Hype: Future for Electrical Vehicles? (104) <u>Rezan Demir-Cakan</u> , Elif Ceylan Cengiz and Omer Salihoglu			
10 30 : 10 45 Coffee	Break			
10 45:11 15	Hall Nissa Chair: Dag Noréus Energy storage materials probed by in situ neutron and synchrotron diffraction (110) <u>Vlodymyr Yartys</u>			
11 15:11 45	High energy electrode materials for rechargeable Na-ion batteries (109) Maider Zarrabeitia, Montse Galceran, Antonio Jesus Fernandez-Ropero, Agnieszka Wizner, Morgane Giner, Damien Saurel, Marine Reynaud, Miguel Angel Munoz-Marquez, A. Saracibar, Michel Armand, Teofilo Rojo and Montse Casas-Cabanas			
11 45: 12 15	State of the Art on Electron Microscopy Techniques for the Lithium Detection in Lithium Containing Energy Materials (74) <u>Servet Turan</u> Umut Savacı and Kamil Burak Dermenci			
12 15 :13 45	Coupled Electrochemical and Electrogravimetric Methods for Energy Storage and Conversion (106) Ozlem Sel			

	Se	eptember 26th Tuesday 2017	
	Hall Nissa		
	"High Porformance Ca and Ti Don	Chair: Mustafa Ürgen	Materials for Sodium Ion Patteries (08)
14 00: 14 30	"High Performance Ca and Ti Doped Layered O3-Na[Ni _{1/3} Fe _{1/3} Mn _{1/3}]O ₂ Cathode Materials for Sodium-Ion Batteries (98) <u>Saban Patat</u> , Süleyman Yıldız, Nazlı Özdemir and Ahmet Ülgen		
	Hall Nissa Chair: Montse Casas-Cabanas	Hall Sobesos Chair: : Jasmina Grbovic Novakovic	Hall Osiana Chair: Duncan P. Fagg
14 30: 14 50	Adjusting interlayer distance in graphite as anode material for Na-ion batteries (115) <u>Gülhan Çakmak</u> and Tayfur Öztürk	Carbon Nanotube - Polyaniline Nanocomposite Supercapacitor Electrodes (3) <u>Alptekin Aydınlı</u> , Recep Yüksel and Hüsnü Emrah Ünalan	Novel Direct Borohydride Fuel Cell membranes based on SPEEK and PBI (33) <u>Ramiz Gultekin</u> <u>Akay</u> , Kursat Can Ata and Cenk Çelik
14 50 : 15 10	The Effect of Binders on the Electrochemical Properties of MnO2 Cathodes (34) Seyma Ozcan, Aslıhan Guler, Mehmet Oguz Guler and Hatem Akbulut	Combinatorial evaluation of thin film Nb-Pd- Ti ternary membranes for hydrogen separation (2) <u>Fatih Pişkin</u> and Tayfur Öztürk	Numerical Analysis of Pressure Drop Due To Channel Bend Effect in Serpentine Flow Field Pattern (57) Mohammad Ziauddin Chowdhury and Bora Timurkutluk
15 10 : 15 30	The effect of lithium amount on electrochemical and structural characteristics of Lix(Ni0.80Co0.15Al0.05)O2 cathode active materials for lithium-ion batteries (5) Cansu Savaş, Berke Pişkin and Kadri Aydınol	Development of Ti-based AB2-type Metal Hydrides for Hydrogen Storage and Compression Applications (89) Lydia Pickering, Moegamat Wafeeq Davids, Mykyahlo Lototskyy and Cordellia Sita	Three Dimensional Modeling of Anode Microstructure in Solid Oxide Fuel Cells (56) Safa Koc, Selahattin Celik and Serkan Toros
15 30 : 15 50	Effect of Different Binders on Cyclic Performance of Si/C Anodes for Secondary Lithium-Ion Batteries (91 <u>Burcu Miser,</u> Pelin Livan, Sertaç Altınok, Cavit Eyövge, Tayfur Öztürk and Mehmet Kadri Aydınol	5 Volts Cathode Materials for Advanced Lithium Ion Battery(121) Krum Banov,Todor Petkov,Dimka Ivanova and <u>Branimir Banov</u>	Synthesis of Polypyrrole (PPy) based Porous N- Doped Carbon Nanotubes (N-CNTs) as Catalyst Support for PEM Fuel Cells (77) Ayşenur Öztürk and Ayşe Bayrakçeken Yurtcan
15 50 : 16 15 Co	ffe Break		

September 26th Tuesday 2017			
		Hall Nissa Chair: Servet Turan	
16 15: 16 45	Electrochemical Performance Model for the Lithium-Sulfur Battery Based on Cathode Design Parameters (37) Nisa Erisen, Nur Ber Emerce and Damla Eroglu		
	Hall Nissa Chair: Junxian Zhang	Hall Sobesos Chair: Şaban Patat	Hall Osiana Chair: Crina Silvia Ilea
16 45 : 17 05	A method for improving metal hydride surfaces for NiMH cells (47) Yang Shen, Dag Noréus, Björn Skårman and Hilmar Vidarsson	N-doped Bio-carbon derived from Pea Protein with Outstanding Supercapacitance Performance (82) Muslum Demir, Jethrine H. Mugumya, Sushil K. Saraswat and Ram B. Gupta	Fabrication and characterization of MEAs for low temperature SOFCs (61) Çiğdem Timurkutluk, <u>Yelda Akdeniz</u> and Bora Timurkutluk
17 05: 17 25	Surface Modified Magnesium Based Negative Electrode Material for NiMH Batteries (7) <u>Cavit Eyovge</u> and Tayfur Oztürk	One-dimensional CoMn2O4 nanowire arrays for supercapacitor applications (44) Fatma Nur Tuzluca, Yasar Ozkan Yesilbag and Mehmet Ertugrul	Development of Metal Supported Solid Oxide Fuel Cell (55) Münir Taner Güler, Cigdem Timurkutluk and Selahattin Celik
17:25 : 17 45	Doping of layered Li(NixMnyCo1-x-y-zMz)O2 (z=W,Mo) cathode materials for lithium ion batteries (11) Berke Pişkin, Cansu Savaş and Mehmet Kadri Aydınol	Porosity Optimization via Carbon dioxide Treatment of Chemically Activated Carbons for EDLC Applications (10) Kadir Özgün Köse and Kadri Aydınol	A novel inorganic additive for vanadium redox flow battery (39) <u>Metin Gençten</u> , Hürmüs Gürsu and Yücel Şahİn
17 45 : 18 05	Carbon encapsulation and encapsulated Si particles for energy storage Pelin Livan, Burcu Miser, Cavit Eyövge, M. Kadri Aydınol and Tayfur Ozturk	Co3O4 nanostructures with high supercapacitive performance (45) Yasar Ozkan Yesilbag, Fatma Nur Tuzluca and Mehmet Ertugrul	Single Walled Carbon Nanotube Thin Films Decorated with Cobalt Oxide Nanoflakes for Supercapacitor Electrodes (79) Mete Batuhan Durukan, Recep Yüksel and Husnu Emrah Unalan

	September 26th Tuesday 2017			
19:30-22:00	Poster Session and Dinner			
	Poster Session: Batteries & Supercapacitors			
	Enhanced supercapacitive performance of Fe3O4/Carbon nanocomposite in surfactant-added aqueous electrolyte (52) Neriman Sinan and Ece Unur			
	Poly(9-phenantrenyl-2,5-di(2-thienyl)pyrrole-co-pyrrole) based pencil graphite electrode for electrochemical supercapacitors (68) Hakan Görçay, ilhami Çelik and Yücel Şahİn			
	Electrochemical synthesis of poly(6-chrysenly-2,5-di(2-thienyl)pyrrole-co-pyrrole) film for supercapacitor electrode materials (69) Hakan Görçay, İlhami Çelik and Yücel Şahİn			
	Comparing Capacitances of Modified Glassy Carbon Electrodes by Microwave asisted Reduced Graphene Oxide with Metallotphthalocyanines (92) Bahadir Keskin and Utkan Şahintürk			
	Development of Positive Electrode Materials for NiMH Batteries (9) Necdet Ozgur Daricioglu, Cavit Eyovge and Tayfur Ozturk			
	Investigation of intercalation of multivalent-ions into Lambda-MnO2 structure in aqueous electrolytes batteries (86) Serkan Sevinç Burak Tekin, Eren Demir and Rezan Demir Çakan			
	In-situ Investigation of NaFePO4 Electrochemical Conversion From LiFePO4 in Aqueous Electrolyte Batteries (87) Serkan Sevinç, Burak Tekin and			
	The effects of boroxide on the electrochemical behaviors of a VRB (40) Metin Gençten, Hürmüs GÜrsu and Yücel Şahin			
	Electrochemical investigation the effects of an organic solvent on a VRB (41) Metin Gençten, Hürmüs Gürsu and Yücel Şahin			
	Investigation of over oxidized graphite based electrodes for vanadium redox battery (64) Hürmüs Gürsu, Metin Gençten and Yücel Şahin			
	Electrochemically modified graphite based electrodes at constant potential for positive electrolyte of vanadium redox battery (65) Hürmüs Gürsu , Metin Gençten and Yücel Şahin			
	Synthesis of polypyrrole modified graphite based electrodes for vanadium redox battery (66) Hürmüs Gürsu , Metin Gençten and Yücel Şahin			
	The Effect of Porosities on the Electrochemical Properties of ZnO Anode Materials with MicNo® Morphology (70) Kamil Burak Dermenci, Tunç Yanık, Sevinç Dağ, Ender Suvacı and Servet Turan			
	Binder-free ZnO-SnO2-rGO Nanocomposite Paper Anodes for Li-ion Batteries (93) Hilal Köse, Seyma Dombaycıoğlu and Ali Osman Aydın			
	Fe2O3/rGO Nanocomposite Free-Standing Anodes for Li-ion Batteries (94) Şeyma Dombaycıoğlu , Hilal Köse and Ali Osman Aydın			

Graphene Assisted NMC Based Cathode Electrodes with Enhanced Charge Rate and Energy Storage (99) Hatem Akbulut, Hatice Gungor, Aslihan Guler, Seyma Ozcan Duman, Aslan Coban and Mehmet Oguz Guler Optimization of Graphene Synthesis by Electrochemical Exfoliation of Graphite (19) Vahit Kurt and Kadri Aydınol Electrochemical Performance of Au@Pd Core-Shell Nanoparticles decorated Graphene-PEDOT:PSS composite cathode for Li-Air Batteries (21) Mustafa Can, Samet Celebi, Merve Sayin ÖzÇelik and Tuğrul Çetinkaya The design of a Lithium Ion Full Cell Battery Employing Silicon/Graphene Anode and αMnO2/Graphene Cathode (22) Mahmud Tokur and Hatem Akbulut Graphene Assisted Core Shell Sn@C Hybrid Nano Composites Anode Electrodes for Li-Ion Batteries (31) Mehmet Oguz Guler, Mustafa Guzeler, Deniz Nalci, Aslihan Guler and Hatem Akbulut Template Synthesis of Nano Structured LiMn2O4 Cathode Electrodes for High Capacity Li-Ion Batteries (32) Aslihan Guler, Seyma Ozcan Duman, Mehmet Oguz Guler and Hatem Akbulut The Effect of the Li source on the ionic conductivity of Li7La3Zr2O12 Solid Electrolytes (73) Semih Engün, Kamil Burak Dermenci and Servet Turan Li7La3Zr2O12 fibers as an electrolyte for all-solid-state Li-ion batteries (84) Salim Erol SPS Sintering of Al stabilized Li7La3Zr2O12 Solid Electrolytes (101) Musah Abdulai, Kamil Burak Dermenci and Servet Turan CNT-Graphene Based Hybrid Architectures for ZnO Nanocomposite Anodes (48) Hilal Köse, Şeyma Dombaycıoğlu, Hatem Akbulut and Ali Osman Aydin Using Oxide Based Electrolyte Additives in High Performance Li-ion Batteries (49 **Seyma Dombaycioğlu**, Hilal Köse, Hatem Akbulut and Ali Osman Aydın The Enhancement of Electrochemical Properties By Using Bacterial Cellulose Interlayers In Li-S Batteries (36) Kamile Burcu Celik, Elif Ceylan Cengiz, Taner Sar, Burcu Dursun, Meltem Yesilcimen Akbas and Rezan Demir-Cakan Synthesis of carbohydrates-derived carbonaceous electrode materials and their Na-ion battery performances (38) **Burcu Ünal**, Burcu Dursun, Meral Aydın, Rezan Demir Cakan and Aysen Zerey

Poster Session: Solid State Hydrogen storage

Vacancies influence on MgH2 properties (50) <u>Sandra Kurko</u>, Bojana Paskaš Mamula, Sanja Milošević, Jasmina Grbović Novaković and Nikola Novaković

Boronic Acid Moiety as Functional Defect in UiO-66 and Its Effect on Hydrogen Uptake Capacity (67) Mustafa Erkartal

Synthesis and hydrogen storage properties of Mg-V-H thin films (71) <u>Jasmina Grbovic Novakovic</u>, Sandra Kurko, Sanja Milosevic, Nikola Novakovic, Nikola Biliskov, Davor Galonja and Maja Buljan

Poster Session: Fuel Cells and Electrolysers

Chemically Synthesized Reduced Graphene Oxide-Carbon Black based Hybrid Catalysts for PEM Fuel Cells (58) Elif Daş and Ayşe BayrakÇeken Yurtcan

Synthesis and Characterization of Bimetallic Catalysts for PEM Fuel Cells (59) Elif Das, Selmiye Alkan Gursel and Ayse Bayrakceken Yurtcan

Durability Investigation of Graphene Supported Bimetallic Catalysts for PEM Fuel Cell Applications (60) Elif Das, Selmiye Alkan Gursel and Ayse Bayrakceken Yurtcan

Utilization of Different Surface Area Graphenes as Catalyst Support and PDMS Polymer as Catalyst Binder in PEM Fuel Cell (76) Ayşenur Öztürk
Ayşenur Öztürk, Niyazi Özçelik and Ayşe Bayrakçeken Yurtcan

The effect of nitrogen doping amount on the activity of commercial electrocatalyst used in PEM fuel cells (80) Niyazi Özçelik and Ayşe Bayrakçeken Yurtcan

Rapid Microwave Assisted Synthesis of Efficient Hybrid Electrocatalysts for Proton Exchange Membrane Fuel Cell (85) <u>Begüm Yarar Kaplan</u>, Navid Haghmoradi, Emre Biçer, César Merino and Selmiye Alkan Gürsel

Cu-GDC anode and GDC electrolyte substrates for combinatorial development of IT-SOFCs (16) Eda Aysal and Tayfur Öztürk

Straight-parallel electrodes and variable gap for hydrogen and oxygen evolution reactions (62) <u>María Lavorante</u>, Juan Isidro Franco and Yanina Reynoso

Preparation of La0.8Sr0.2CoO3-δ / (La0.5Sr0.5)2CoO4 Sputtering Targets Using Deformable Compaction Die (15) <u>Dogancan Sari</u>, Ziya Cagri Torunoglu, Yunus Eren Kalay and Tayfur Ozturk

Development of Methanol Reformer for Solid Oxide Fuel Cell (29) Alisan Arasli

Preparation of nitrogen doped graphene aerogel and carbon support materials and catalytic activities towards formic acid oxidation (81) M.Selim Çögenli, **Niyazi Özçelik** and Ayşe Bayrakçeken Yurtcan

Development of Ultra-Light Weight Stack for UAV Applications (30) Ali Altuntepe, Selahattin Çelik and Ibrahim Pamuk

		Contambar 27th Wednesday 2017
		September 27th Wednesday 2017 Hall Nissa
		Chair: Hiroshi Inoue
08 30 :09 00		Ammonia borane as hydrogen storage materials (107)
		Saim Özkar
09:00: 09: 30		Supercritical carbon dioxide deposition as a promising catalyst preparation method for PEM fuel cell electrocatalysts (105)
05.00. 05. 50		Ayşe Bayrakçeken Yurtcan, Elif Daş and Selmiye Alkan Gürsel
		Experimental Investigation of CO Tolerance in High Temperature PEM Fuel Cells (117)
09 30:10:00		<u>Yılser Devrim</u> , Hüseyin Devrim and Ayhan Albostan
		CVD graphene as catalyst support for acid electrolytes (26)
10:00 10:30		M. Suha Yazici, Omer Salihoglu, M. Akif Azder, Cigdem Karadag and Fatma Gul Boyaci-San
10 00 :10 30	Coffee	Break
		Hall Nissa
10 30:11 00		Chair: Kadri Aydınol
10 00:11 00		Hydrides as negative electrode material of Li-ion batteries (75)
		Junxian Zhang, Nicola Berti, Fermin Cuevas and Michel Latroche
11 00:11: 20		Impedance-based, zero-free-parameter modeling of energy atorage systems (114)
11 00:11: 30		Elif Özdemir, Can Berk Uzundal and <u>Burak Ulgut</u>
		Understanding the Rapid Capacity Fading of LNMO-LTO Lithium-ion Cells at Elevated Temperature (90)
11:30-12 00		Burak Aktekin, Matthew J. Lacey, Tim Nordh, Carl Tengstedt, Daniel Brandell and Kristina Edström
		Energy storage systems based on lithium ion batteries
12:00-12:30		Krum Banov, Todor Petkov, Dimka Ivanova and Branimir Banov
		Nickel Oxide Based Materials For Supercapacitor Applications (111)
12:30-13:00		<u>Mustafa Ürgen</u> , Nazli Tokmak
13:00-14:00	Lunch Break	
14:00- 23:00		Excursion & Gala Dinner

	September 28 th Thursday 2017		
	Hall Nissa Chair: Saim Özkar		
09 00 : 09 30	Protonic Ceramic Electrochemical Cells (112) Narendar Nasani, D. Pukazhselvan , <u>Duncan P. Fagg</u>		
09 30: 10 00	Improved PEM fuel cell performance with hydrophobic catalyst layers (53) Gokce S. Avcioglu, Berker Ficicilar and <u>Inci Eroglu</u>		
10:00:10:30	Anodic catalysts for use in direct glycerol fuel cells (78) <u>Hiroshi Inoue</u> , Masanobu Chiku and Eiji Higuchi		
10 30 :11 00	Coffee Break		
	Hall Nissa Chair: Vlodymyr Yartys		
11 00:11 20	Advanced Hydrogen Energy Systems- HENERGY (EU ERAfrica program)-Harvesting energy at high temperatures (118) <u>Vlodymyr Yartys</u>		
11 20 :11 40	A concept of combined cooling, heating and power system utilising solar power and based on regenerative solid oxide fuel cell and metal hydrides (102) Mykhaylo Lototskyy, Serge Nyallang Nyamsi, Sivakumar Pasupathi, Ivar Wærnhus, Arild Vik, Crina Ilea and Volodymyr Yartys		
11 40:12 00	Review of Thermal Energy Storage using Metal Hydride-based Technology. (119) <u>Lydia Pickering</u> , Serge Nyallang Nyamsi, Mykhaylo Lototskyy and Cordellia Sita		
12:00:12:20	Combinatorial Development of Thin Film La0.8Sr0.2CoO3-δ / (La0.5Sr0.5)2CoO4 Cathode Materials for Intermediate Temperature Solid Oxide Fuel Cells (8) Dogancan Sari , Ziya Cagri Torunoglu, Yunus Eren Kalay and Tayfur Ozturk		
12 30: 14:00	Lunch Break		
	September 28 th Thursday 2017		

	Hall Osiana Chair: M. Süha Yazıcı	Hall Sobesos Chair: Hatem Akbulut	Hall Nissa Chair: <u>Michael V. Lototsky</u>
14 00- 14 20	Application of Interlayers as Polysulfide Adsorbers in Lithium-Sulfur (Li-S) Batterio (27) Elif Ceylan Cengiz and Rezan Demir Çaka	<u>Burcu Arslan</u> and Kadri Aydınol	One pot Pechini synthesis of (La,Sr)CoO3/(La,Sr)2CoO4 for Cathodes of IT- SOFCs (13) Ziya Cagri Torunoglu, Dogancan Sarı, Oktay Demircan, Y. Eren Kalay, Tayfur Ozturk and Yener Kuru
14 20 -14 40	Development of a controlled porous graphene based cathodes for Li-air batter (54) <u>Ersu Lökçü</u> and Mustafa Anık	Electrochemical Properties of Surface Processed Silicon Micro Particles for Secondary Lithium-Ion Battery Anodes (17) <u>Burcu Miser</u> and Kadri Aydinol	Characterization of cation segregation in La0.8Sr0.2CoO3-δ / (La0.5Sr0.5)2CoO4 heterostructure (18) <u>Bengisu Yasar</u> , Dogancan Sari, Y. Eren Kalay and Tayfur Ozturk
14 40- 15 00	Enhancement of NaS Battery Performand Using Various Carbon Structures at the Cathode Side (46) Bilal Genez and Berker Fiçicilar	Ab initio Electronic Structure Calculations of LaBO3 (B= Cr, Mn and Fe) Perovskites (12) Aysegul Afal Genis and Kadri Aydinol	Electrochemical Performance of La0.6Sr0.4Co0.8Fe0.2O3 - Ce0.9Gd0.1O2 Composite SOFC Cathodes Fabricated by Electrocatalyst and Electrocatalyst-Ionic Conductor Infiltration (35) Can Sindirac, Aligul Buyukaksoy and Sedat Akkurt
15:00-15:20	Development and Characterization of Tungstates and Molybdates For Li-ion Batteries (97) Burçin Kaygusuz and Kadri Aydınol	BiVO4 Nanorods as a Novel Anode Material for High Energy and Power Density Lithium Ion Capacitor (23) Deepak Dubal Deepak Dubal and Pedro Gomez-Romero	Effect of crystal orientation on the aliovalent dopant segregation at the surface of La0.6Sr0.4CoO3 (51) Fatih Piskin, Roland Bliem and Bilge Yildiz
15:20 15 40	Coffee Break		

	September 28 th Thursday 2017
	Hall Nissa Chair : İnci Eroğlu
15 40-16 10	Trends and Bottlenecks of SOFC Systems (120) <u>İbrahim Pamuk</u>
16 10 16:40	Design and Development of High Temperature PEM Fuel Cell for Airport Ground Handling Operations (116) Yılser Devrim, Kübra Pehlivanoğlu, Ömer Erdemir and <u>Hüseyin Devrim</u>
16 40 -17 10	Clean Highly Efficient Offshore Power with CO2 Capture (CHEOP-CC) (113) <u>Crina Suciu</u> , Ivar Waernhus, Arild Vik
17:10-17 20	break
17:20-17:40	Closing Session