

Time	Aug 16 SUN	Aug 17 MON	Aug 18 TUE	Aug 19 WED	Aug 20 THU
8:00	Workshop Registration	(from 7:30AM)			
8:30		Registration			
9:00	CARPE-FC Workshop	Conference Opening	Plenary Talks 4, 5	Plenary Talks 6, 7	Concurrent site visit: 1. Ballard, MBFC 2. UBC Living Lab
9:30		9:45 Plenary Talks 1	<b>Mark Verbrugge</b>	<b>Steve Holdcroft</b>	
10:00		<b>David Wilkinson</b>	<b>Viola Birss</b>	<b>Subhas Chalasani</b>	
10:30		Break	Break	Break	
11:00		Keynote presentations	Keynote presentations	Keynote presentations	
11:30					
12:00					
12:30		Lunch	Lunch	Lunch	
13:00					
13:30		Plenary Talks 2, 3	Keynote presentations	Oral presentations	
14:00		<b>Jean-Pol Dodelet</b>			
14:30	<b>Linda Nazar</b>				
15:00	Conference Registration	Break	Break	Break	
15:30		Keynote presentations	Oral presentations	Oral presentations	
16:00					
16:30			Oral presentations	Conference Closing	
17:00					
17:30		Break			
18:00					
18:30					
19:00		Banquet			
19:30					
20:00					

**Plenary: 45 min.**

**Keynote: 30 min.**

**Oral: 15 min. (Q&A inclusive)**

## Sessions

Time	Aug 17 MON				Aug 18 TUE				Aug 19 WED			
8:00	Registration											
8:30												
9:00	Conference Opening				P4, P5				P6, P7			
9:30	9:45 P1											
10:00												
10:30	Break				Break				Break			
11:00	K01	K02	K03	K20	K08	K09	K10	K11	K16	K17	K18	K19
11:30												
12:00												
12:30	Lunch				Lunch				Lunch			
13:00												
13:30	P2, P3				K12	K13	K14	K15	O07 O08 O09 O10 O11 O12			
14:00												
14:30												
15:00	Break				Break				Break			
15:30	K04	K05	K06	K07	O01 O02 O03 O04 O05 O06				O13 O14 O15 O16 O17 O18			
16:00												
16:30												
17:00	Break								Conference Closing			

## Plenary Presentations (45 minutes including Q&A)

### Room 100 Scarfe Building

Session #	Title	First name	Last name
<b>100</b>	<i>Chair: Jijun Zhang</i>		<i>Aug. 17, 09:45-10:30</i>
P1	Electrochemical energy technologies for the 21st century	David	WILKINSON
<b>100</b>	<i>Chairs: Claude Lamy, Zhongwei Chen</i>		<i>Aug. 17, 13:30-15:00</i>
P2	Performance and durability of non-noble catalysts for oxygen reduction in proton exchange membrane fuel cells	Jean-Pol	DODELET
P3	Unravelling the complexities of electrochemical energy storage at the nanoscale	Linda	NAZAR
<b>100</b>	<i>Chairs: Mei Cai, Andy Sun</i>		<i>Aug. 18, 09:00-10:30</i>
P4	The need for high energy batteries for traction applications and investigation of the lithium-silicon system	Mark	VERBRUGGE
P5	Novel nanoscale templates and scaffolds for fuel cell applications	Viola	BIRSS
<b>100</b>	<i>Chairs: Fariborz Taghipour, Joey Jung</i>		<i>Aug. 19, 09:00-10:30</i>
P6	Hydrocarbon solid polymer electrolytes: from model systems to potential candidates	Steven	HOLDCROFT
P7	Advanced lead acid battery technologies	Subhas	CHALASANI

## Keynote Presentations (30 minutes including Q&A)

Room/Session #	Title	First name	Last name
<b>Rm 203</b>		<i>Chair: Dave Ghosh</i>	
<i>Aug. 17, 11:00-12:30</i>			
<b>K01</b>	1 Simulation of single and two-phase transport phenomena in catalyst layers	Ned	DJILALI
<b>K01</b>	2 Catalyst layers for PEM fuel cells: from physical principles of operation to advanced design	Michael	EIKERLING
<b>K01</b>	3 Degradation investigations of high temperature polymer electrolyte fuel cells with respect to the European project CISTEM	Peter	WAGNER
<b>Rm 204</b>		<i>Chair: Marc Secanell</i>	
<i>Aug. 17, 11:00-12:30</i>			
<b>K02</b>	1 From hydrogen production in a proton exchange membrane electrolysis cell (PEMEC) to its utilization in a proton exchange membrane fuel cell (PEMFC): some considerations on the overall efficiencies	Claude	LAMY
<b>K02</b>	2 Experimental and computational study of proton exchange membrane electrolyzer cells for high-efficiency hydrogen production	Feng-Yuan	ZHANG
<b>K02</b>	3 Electrochemical behaviour of Pt supported on SiC based materials in electrodes for high temperature PEMFCs	Justo	LOBATO
<b>Rm 208</b>		<i>Chair: Keryn Lian</i>	
<i>Aug. 17, 11:00-12:30</i>			
<b>K03</b>	1 Next-generation rechargeable batteries: electrochemistry, materials, and prospects	Yuguo	GUO
<b>K03</b>	2 Characterization of battery materials with scanning electrochemical microscope (SECM) and related systems	Tomokazu	MATSUE
<b>K03</b>	3 Recent progress on flow battery: research and development	Huamin	ZHANG
<b>Rm 209</b>		<i>Chair:</i>	
<i>Aug. 17, 11:00-12:30</i>			
<b>K20</b>	1 Sulfur-rich polymer materials with semi-interpenetrating network structure used in lithium-sulfur battery applications	Yuezhong	MENG
<b>K20</b>	2 Controlled synthesis of micro/nanostructured metal-based materials	Wenbin	HU
<b>K20</b>	3 Efficient electrochemical reduction of oxygen catalyzed by graphene quantum dots dispersed on graphene nanoribbons	Shun	WANG
<b>Rm 203</b>		<i>Chair: Justo Lobato</i>	
<i>Aug. 17, 15:30-17:00</i>			
<b>K04</b>	1 Status of SOFC technology & its commercialization worldwide	Dave	GHOSH
<b>K04</b>	2 La(Sr)Fe(Mn)O <sub>3</sub> interlayer for low temperature solid oxide fuel cells using LaGaO <sub>3</sub> electrolyte	Tatsumi	ISHIHARA
<b>K04</b>	3 The strategy to improve the stability of PEM fuel cell catalysts	Shichun	MU
<b>Rm 204</b>		<i>Chair: Yuguo Guo</i>	
<i>Aug. 17, 15:30-17:00</i>			

<b>K05</b>	1	Improve the photoelectrochemical activity of graphitic carbon nitride by regulating its crystallinity	Jianhai	WANG
<b>K05</b>	2	The development of efficient and stable nanocatalysts for fuel cells	Jin-Song	HU
<b>K05</b>	3	Pronounced photoelectric response of n-type poly(aniline-co-diphenylamine and 5-aminosalicylic acid) semiconductor	Shaolin	MU

<b>Rm 208</b>	<i>Chair: Jinli Qiao</i>		<i>Aug. 17, 15:30-17:00</i>	
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<b>K06</b>	1	Electrolyte additive for suppressing self-discharge of high voltage cathodes for lithium ion batteries	Weishan	LI
<b>K06</b>	2	Electrolytes for Si-based Electrodes	Mei	CAI
<b>K06</b>	3	Advances in polymer electrolytes for solid flexible supercapacitors	Keryn	LIAN

<b>Rm 209</b>	<i>Chair: Michael Eikerling</i>		<i>Aug. 17, 15:30-17:00</i>	
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<b>K07</b>	1	Multistate near-infrared electrochromism and memory in electropolymerized films of ruthenium complexes	Yu-Wu	ZHONG
<b>K07</b>	2	Self-assembled hierarchical yolk-shell structured NiO@c from metal-organic frameworks with outstanding performance for lithium storage	Hong	GUO
<b>K07</b>	3	Three-dimensional networks of covalently bonding sp <sup>2</sup> -hybridized carbon nanostructures for electrochemical energy storage	Hengxing	JI

<b>Rm 203</b>	<i>Chair: Pei Kang Shen</i>		<i>Aug. 18, 11:00-12:30</i>	
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<b>K08</b>	1	Segmented dynamic model of PEM fuel cell systems	Jian	CHEN
<b>K08</b>	2	Mass transport in fuel cell electrodes	Marc	SECANELL
<b>K08</b>	3	3D multi-physic modeling and validation of a gas diffusion electrode for analyzing transport and kinetic phenomena of noble and non-noble based catalysts for PEMFC	Stefania	SPECCHIA

<b>Rm 204</b>	<i>Chair: Nicolas Alonso-Vante</i>		<i>Aug. 18, 11:00-12:30</i>	
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<b>K09</b>	1	Bio-organic-inorganic (BOI) hybrid materials for low cost high performing fuel cell catalysts	Rongzhong	JIANG
<b>K09</b>	2	Pt-free catalyst for oxygen reduction reaction in fuel cells	Zidong	WEI
<b>K09</b>	3	Doped reduced graphene oxide mounted with Ru for Li-O <sub>2</sub> battery application	Shijun	LIAO

<b>Rm 208</b>	<i>Chair: Dingguo Xia</i>		<i>Aug. 18, 11:00-12:30</i>	
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<b>K10</b>	1	A theoretical calculation study of graphene-based electrocatalysts for oxygen reduction reaction	Shengli	CHEN
<b>K10</b>	2	Porous carbon fiber and its supported Pt as the catalyst for improved performance of ORR	Guang	LI
<b>K10</b>	3	SOFC development in Huazhong University of Science and Technology	Jian	LI

<b>Rm 209</b>	<i>Chair: Jianguo Liu</i>		<i>Aug. 18, 11:00-12:30</i>	
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<b>K11</b>	1	Cu monolayer deposited on (100) preferentially oriented Pt nanostructured films: crystallographic surface orientation and synergetic effect for NO <sub>3</sub> <sup>-</sup> reduction	Daniel	GUAY
<b>K11</b>	2	Hierarchical three-dimensional carbon nanostructures for flexible high-energy supercapacitors	Yuegang	ZHANG
<b>K11</b>	3	Design of advanced hybrid supercapacitors with high energy density	Xingbin	YAN
<b>Rm 203</b> <i>Chair: Stefania Specchia</i> <i>Aug. 18, 13:30-15:00</i>				
<b>K12</b>	1	Supports materials and catalytic centers for the oxygen reduction reaction	Nicolas	ALONSO-VANTE
<b>K12</b>	2	Electrocatalysts for fuel cells	Minhua	SHAO
<b>K12</b>	3	Nano-electrocatalysts for fuel cells and wastewater treatment	Shuhui	SUN
<b>Rm 204</b> <i>Chair: Rongzhong Jiang</i> <i>Aug. 18, 13:30-15:00</i>				
<b>K13</b>	1	The synthesis and characterization of an intermetallic compound AuNb <sub>3</sub> /c as a novel ORR catalyst	Dingguo	XIA
<b>K13</b>	2	Highly stable and active Pt-based electrocatalysts for PEM fuel cells	Andy	SUN
<b>K13</b>	3	Alkaline polymer electrolyte fuel cells: progress and challenges	Lin	ZHUANG
<b>Rm 208</b> <i>Chair: Guang Li</i> <i>Aug. 18, 13:30-15:00</i>				
<b>K14</b>	1	Fluorine doped tantalum carbides as an efficient non-precious metal catalyst for hydrogen evolution reaction in acidic media	Pei Kang	SHEN
<b>K14</b>	2	The research of two backbones for high temperature proton	Hong	ZHU
<b>K14</b>	3	Selective edge-positioning of sulfur and nitrogen in dual-doped carbon nanosheets with interconnected structure for oxygen reduction reaction	Wensheng	YANG
<b>Rm 209</b> <i>Chair: Daniel Guay</i> <i>Aug. 18, 13:30-15:00</i>				
<b>K15</b>	1	Scalable production of two-dimensional crystals as materials for energy conversion and storage	Jong-Beom	BAEK
<b>K15</b>	2	Advances on aqueous supercapacitors with high energy density	YP	WU
<b>K15</b>	3	Well-ordered Ru@Pt core-shell nanocatalysts with enhanced electrocatalytic properties	Jianguo	LIU
<b>Rm 203</b> <i>Chair: Yuyu Liu</i> <i>Aug. 19, 11:00-12:30</i>				
<b>K16</b>	1	Surface and interface modulation for tuning electrocatalytic performance of metal nanocrystals	Yujie	XIONG
<b>K16</b>	2	Electrochemical treatment of catalytic surfaces for enhancing small organic molecules electro-oxidation	Alessandro	LAVACCHI
<b>K16</b>	3	Advanced M/N-S/C non-precious metal electrocatalysts based on nitrogen-rich small molecule precursors for oxygen reduction reaction	Jinli	QIAO

<b>Rm 204</b>		<i>Chair: Ping He</i>	<i>Aug. 19, 11:00-12:30</i>	
<b>K17</b>	1	Nanoscale Catalysis Arts in Hydrogen Energy Production	Chang Ming	LI
<b>K17</b>	2	Application of computational materials science in the development of lithium-ion battery materials	Siqi	SHI
<b>K17</b>	3	A three-dimensional nanostructured core-shell electrode architecture for battery-supercapacitor hybrids	Jun	LI
<b>Rm 208</b>		<i>Chair: Kuei-Hsien Chen</i>	<i>Aug. 19, 11:00-12:30</i>	
<b>K18</b>	1	Alkaline polymer membranes for fuel cell applications : challenging PEMFC?	Gerald	POURCELLY
<b>K18</b>	2	Fe <sub>3</sub> C@carbon nanocapsules/expanded graphite as anode materials for lithium ion batteries	Qing-Yu	LI
<b>K18</b>	3	Transition metal macrocyclic catalysts for oxygen reduction reaction	Yuyu	LIU
<b>Rm 209</b>		<i>Chair: Zidong Wei</i>	<i>Aug. 19, 11:00-12:30</i>	
<b>K19</b>	1	Controlled synthesis of Pt nanostructures towards efficient electrocatalysis	Xin	WANG
<b>K19</b>	2	Demonstration of water electrolysis in molten potassium dihydrogen phosphate KH <sub>2</sub> PO <sub>4</sub> at ~300 °C by means of Raman spectroscopy	Rolf	BERG
<b>K19</b>	3	Polymer Threaded in MOF as a Microporous Solid Electrolyte with Fast Exchange and High Selectivity	Kwong-Yu	CHAN

## Oral Presentations (15 minutes including Q&A)

Room/Session #	Title	First name	Last name
<b>Rm 203</b>			
<i>Chair: Jinqing Kan</i>		<i>Aug. 18, 15:30-17:30</i>	
<b>O01</b>	1 The movement of Pt band: an inside story	Luke	DAMRON
<b>O01</b>	2 Spatial fingerprint of the catalyst layer degradation in PEM fuel cell	Shankar	DHANUSHKODI
<b>O01</b>	3 Population balance modeling of degradation in porous electrodes	Thomas	KADYK
<b>O01</b>	4 EFFECT OF COBALT CATION (Co <sup>2+</sup> ) ON FUEL CELL PERFORMANCE AND DURABILITY	Ruichun	JIANG
<b>O01</b>	5 Nickel and high-nickel alloys as catalysts for oxygen evolution reaction in intermediate-temperature water electrolysis	Irina	PETRUSHINA
<b>O01</b>	6 Enhancing stability of iridium-based mixed metal oxides for electrochemical water splitting	Camillo	SPOERI
<b>O01</b>	7 Electrochemical reduction of CO <sub>2</sub> : a key player in renewable energy storage	Sona	KAZEMI
<b>O01</b>	8 Electrochemical reduction of CO <sub>2</sub> into syngas: an alternative towards renewable energy storage	Sona	KAZEMI
<b>Rm 204</b>			
<i>Chair: Xuan Zhang</i>		<i>Aug. 18, 15:30-17:30</i>	
<b>O02</b>	1 High energy lithium-ion research and development at Argonne National Laboratory	Jason	CROY
<b>O02</b>	2 New electrolyte additive for enhancing anode protection	Wu	XU
<b>O02</b>	3 Investigations of temperature influenced calendaring process on Li[Ni <sub>1/3</sub> Mn <sub>1/3</sub> Co <sub>1/3</sub> ]O <sub>2</sub> cathode	Maira	INDRIKOVA
<b>O02</b>	4 In-situ synthesis of carbon fiber-supported SiO <sub>x</sub> as anode materials for lithium-ion battery	Biao	WANG
<b>O02</b>	5 Silicon anodes for lithium batteries - from science to engineering	Junbing	YANG
<b>O02</b>	6 Impact of electrolysis acid concentration on the characteristics and performance of electrolytic manganese dioxide for rechargeable alkaline (MnO <sub>2</sub> /Zn) batteries	David	WILKINSON
<b>O02</b>	7 Synthesis and characterization of siloxane electrolyte containing fluorosulfonyl imide lithium salt for Li-ion batteries	Hohyoun	JANG
<b>O02</b>	8 Synthesis and characterization of siloxane electrolyte containing fluorosulfonyl urea lithium salt for Li-ion batteries	Hohyoun	JANG
<b>Rm 206</b>			
<i>Chair: Hongyao Xu</i>		<i>Aug. 18, 15:30-17:30</i>	
<b>O03</b>	1 Structure and properties of sulfonated copoly(arylene ether sulfone)s containing fluorinated side chains as proton exchange membrane	Riming	CHEN

<b>O03</b>	2	Comparative neutron reflectometry study of Nafion TH1 films on SiO <sub>2</sub> , carbon and carbon/Pt substrates as a function of temperature and relative humidity	Peter	KALISVAART
<b>O03</b>	3	Nafion "humidified" by hydroxyl functionalized ionic liquids for high temperature proton exchange membranes	Xianbo	JIN
<b>O03</b>	4	A fuel cell hybrid vehicle powertrain emulator: energy management and experimental analysis	Di	SHEN
<b>O03</b>	5	A proposal for a standardized start-up and shut-down protocol for polymer electrolyte membrane fuel cells	Max	SCHWAGER
<b>O03</b>	6	The sulfonated poly(phenylene) membranes containing multi-phenyl rings prepared by nickel catalyst	Jiho	YOO
<b>O03</b>	7	Studies of grafted and sulfonated poly(isatin-ethersulfone) membranes by super acid-catalyzed reaction for PEMFC applications	Jiho	YOO
<b>O03</b>	8	Hierarchical heterostructures as promising electrode materials for supercapacitors	Hui	XIA
<b>Rm 207</b> <i>Chair: Yujiang Song</i> <i>Aug. 18, 15:30-17:30</i>				
<b>O04</b>	1	A lithium bromide rechargeable battery with non-aqueous liquid electrolyte	Xiaoli	XI
<b>O04</b>	2	Manganese oxide based host cathode materials for aqueous alkaline metal ion batteries	Dianxue	CAO
<b>O04</b>	3	Electrochemical performance of NaMnFe <sub>2</sub> (PO <sub>4</sub> ) <sub>3</sub> as a novel cathode material for sodium-ion battery	Yijing	WANG
<b>O04</b>	4	Nanocarbon-based structured materials for catalyst supports in fuel cells and electrochemical biosensors	Xuan	ZHANG
<b>O04</b>	5	Facile synthesis of core-shell structured s@polypyrrole composite as cathode of lithium-sulfur battery with ultrahigh capacity	Hongbin	ZHAO
<b>O04</b>	6	Preparation of activated porous carbons derived from fallen camellia for high performance supercapacitor electrode	Xi'an	CHEN
<b>O04</b>	7	Dissolution and liquid crystals phase of polymeric carbon nitride	Zhixin	ZHOU
<b>O04</b>	8	Metal organic framework derived porous carbon and metal oxide as anode materials for sodium-ion battery	Yang	ZHAO
<b>Rm 208</b> <i>Chair: Youjun Fan</i> <i>Aug. 18, 15:30-17:30</i>				
<b>O05</b>	1	Layered transition metal oxynitride catalyst Co <sub>3</sub> Mo <sub>2</sub> O <sub>x</sub> N <sub>6</sub> /C for oxygen reduction reaction	An	LI
<b>O05</b>	2	First principles computational study of highly stable and active ternary PtCuNi nanocatalyst for oxygen reduction reaction	Byungchan	HAN
<b>O05</b>	3	Heteroatom (N and S) co-doped hierarchically porous carbons (HPCs) as high efficient non-precious metal catalysts for oxygen reduction reaction	Mingjie	WU

<b>O05</b>	4	A comparative study of the $\text{La}_{n+1}\text{Ni}_n\text{O}_{3n+1}$ Ruddlesden-Popper series ( $n = 1, 2, 3$ and $\infty$ ) for oxygen reduction and evolution reactions	Zhongping	SHAO
<b>O05</b>	5	Template-free synthesis of polyhedral Pd-Pt nanocrystals electrocatalysts for oxygen reduction reaction	Yongfu	TANG
<b>O05</b>	6	One step synthesis of fluorine and chlorine co-doped graphene for enhanced electrocatalytic reduction of oxygen	Shun	WANG
<b>O05</b>	7	One step synthesis of fluorine and chlorine co-doped graphene for enhanced electrocatalytic reduction of oxygen	Weilin	XU
<b>O05</b>	8	Free-standing N-doped carbon film as the metal-free catalyst for oxygen reduction reaction	Gaopeng	JIANG
<b>Rm 209</b> <i>Chair: Yida Deng</i> <i>Aug. 18, 15:30-17:30</i>				
<b>O06</b>	1	Interface engineering of CVD-graphene for enhanced photovoltaic performance	Yu	WANG
<b>O06</b>	2	Controlled formation of uniform surface coatings for improved battery performance	An-min	CAO
<b>O06</b>	3	Visible light sensitive nanocomposite Pt/CdS/Co-doped ZnO for efficient photocatalytic water splitting	Neelu	CHOUHAN
<b>O06</b>	4	Photoelectrochemistry of poly-3-hexylthiophene – a fundamental research on photoelectrochemical reduction of organic anthraquinone species in aqueous medium	Pankaj	CHOWDHURY
<b>O06</b>	5	Electrochemical synthesis of n-type poly(aniline-co-diphenylamine) and its novel photoelectric response	Qiaofang	SHI
<b>O06</b>	6	Development of high performance room temperature photo-electrochemical gas sensors using ZnO-NiO heterostructures	Ehsan	ESPID
<b>O06</b>	7	Implementing an in-situ carbon network in Si/reduced graphene oxide for high performance lithium-ion battery anodes	Kun	FENG
<b>O06</b>	8	Sodium-oxygen batteries: chemical and electrochemical reaction mechanisms	Hossein	FENG
<b>Rm 203</b> <i>Chair: Weixin Zhang</i> <i>Aug. 19, 13:30-15:00</i>				
<b>O07</b>	1	Low cost nanocomposite catalysts for lithium-air batteries	Chunwen	SUN
<b>O07</b>	2	Facile synthesis and electrochemical performance of $\text{MoO}_2/\text{Mo}_2\text{C}/\text{C}$ composite for lithium-ion batteries	Zhongping	SHAO
<b>O07</b>	3	Studies on zinc properties in aqueous zinc-polyaniline rechargeable battery	Jinqing	KAN
<b>O07</b>	4	Rechargeability of manganese dioxide-zinc (RAM) batteries	Arman	BONAKDARPOUR

<b>O07</b>	5	Investigation of cathode additives in flat-plate rechargeable alkaline manganese dioxide-zinc (RAM) batteries	Sean	MEHTA
<b>O07</b>	6	Impact of electrolysis acid concentration on the characteristics and performance of electrolytic manganese dioxide for rechargeable alkaline (MnO <sub>2</sub> /Zn) batteries	Farhang	NESVADERANI
<b>Rm 204</b> <i>Chair: Hongbin Zhao</i> <i>Aug. 19, 13:30-15:00</i>				
<b>O08</b>	1	Research and development of ion conducting membranes for flow battery application	Xianfeng	LI
<b>O08</b>	2	Hierarchically porous N-doped graphene foam as highly efficient electrocatalysts for oxygen reduction	Xuejun	ZHOU
<b>O08</b>	3	High performance Nafion <sup>®</sup> / poly(ethylene-alt-maleic anhydride) membranes for fuel cells applications	Sang-June	CHOI
<b>O08</b>	4	Novel polybenzimidazoles containing bulky side groups for high-temperature polymer electrolyte membranes fuel cell applications	JYH-Chien	CHEN
<b>O08</b>	5	Specific electrical conductivity in molten potassium dihydrogen phosphate KH <sub>2</sub> PO <sub>4</sub> electrolyte at ~300 °c	Aleksey	NIKIFOROV
<b>O08</b>	6	Chemical stability of La <sub>0.6</sub> Sr <sub>0.4</sub> Co <sub>0.2</sub> Fe <sub>0.8</sub> O <sub>3-δ</sub> as SOFC cathode	Xingwei	WANG
<b>Rm 206</b> <i>Chair: Pang-Chieh Sui</i> <i>Aug. 19, 13:30-15:00</i>				
<b>O09</b>	1	Toward solar hydrogen generation: GaN:ZnO solid solution – reduced graphene oxide nanocomposite	Babak	ADELI
<b>O09</b>	2	A novel composite nonwoven separator for lithium-ion battery	Hong	WANG
<b>O09</b>	3	Engineering molybdenum oxide nanoarchitectures for robust lithium storage	Jiangfeng	NI
<b>O09</b>	4	High rate capacity Si@SiO <sub>x</sub> /graphene hydrogel composite electrode for lithium-ion battery	Xuejun	BAI
<b>O09</b>	5	A preliminary study on the influence of fiber finess of nonwoven-based separator on the performance of li-ion battery	Hong	WANG
<b>O09</b>	6	Palladium nanotubes: fabrication and application in ethanol electrocatalysis	Xiaojun	HAN
<b>Rm 207</b> <i>Chair: Biao Wang</i> <i>Aug. 19, 13:30-15:00</i>				
<b>O10</b>	1	Modeling of battery energy storage system for smart grid	Zheng	LI
<b>O10</b>	2	Mesoporous cobalt oxide for oxygen evolution reaction under alkaline conditions: a comparative study of three synthesis methods	Stefania	SPECCHIA
<b>O10</b>	3	Mesoporous metal nitride materials for PEM fuel cell application	Minghui	YANG
<b>O10</b>	4	Synthesis and performance of anisotropic porous transport layers	Devin	TODD

<b>O10</b>	5	Development of a high active area air-breathing micro-direct methanol fuel cell	Yinghui	ZHANG
<b>O10</b>	6	Development of atomic and molecular layer deposition coated cathodes for highly stable lithium-sulfur batteries	Xia	LI
<b>Rm 208</b> <i>Chair: Minhua Shao</i> <i>Aug. 19, 13:30-15:00</i>				
<b>O11</b>	1	Substrate effects on Li <sup>+</sup> deposition in lithium secondary batteries with competitive kinetics model	Yifu	YANG
<b>O11</b>	2	Multi-scale computational design of multifunctional materials for energy application beyond conventional limit	Byungchan	HAN
<b>O11</b>	3	Surface oxide formation on Pt(111): a DFT study of structural and electronic properties	Ali	MALEK
<b>O11</b>	4	Molecular modeling of proton distribution at the PtO/ionomer interface in the PEFC catalyst layer	A	NOURI-KHORASANI
<b>O11</b>	5	Microscale model of oxygen bubbles in the porous transport layer of PEM water electrolyzers	A	NOURI-KHORASANI
<b>O11</b>	6	Electricity generation and bubble behaviors of an air-breathing microfluidic fuel cell with cylinder anodes operated under different tilted angles	Dingding	YE
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<b>O12</b>	2	An aptamersensor for detection of 17 $\beta$ -estradiol(e2) based on modified electrode with nano-gold-graphene-nafion	JianShe	LIU
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<b>O12</b>	4	Electrosynthesis of ferrates at neutral at neutral conditions using boron doped diamond electrodes	Macarena	HERNANDEZ
<b>O12</b>	5	Preparation of free-standing 3D graphene foams	Naiquin	ZHAO
<b>O12</b>	6	Novel MnCo <sub>2</sub> O <sub>4</sub> assemblies as anode materials for Li-ion battery	SM	ZHANG
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<b>O13</b>	2	Controllable synthesis of three-dimensional hierarchical porous carbon networks via soluble salts in-situ templates as supercapacitor electrodes	S	ZHU
<b>O13</b>	3	Effect of nickel compound nanostructures on a three dimensional graphene network for high-performance supercapacitors	Xiaomin	WANG

<b>O13</b>	4	Nitrogen-doped porous carbon as electrode materials for high-performance supercapacitor	L	WANG
<b>O13</b>	5	SnO <sub>2</sub> /Cu <sub>2</sub> O nanocomposite as high efficient catalyst for electrochemical reduction of CO <sub>2</sub> to fuel	Mengyang	FAN
<b>O13</b>	6	Graphene oxide/chitosan composites as efficient alkaline anion-exchange membranes for polymer electrolyte fuel Cells	Feifei	SONG
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<b>O15</b>	2	Facile synthesis of pdptni alloy nanoparticles on carbon nanotubes and their enhanced performance for formic acid electrooxidation	Youjun	FAN
<b>O15</b>	3	Carbon based noble-metal-free catalysts for high performance oxygen reduction	Ji	LIANG
<b>O15</b>	4	Hydrogen oxidation reaction selective catalyst for mitigating air/air startup/shutdown performance losses	Dustin	BANHAM
<b>O15</b>	5	Ternary hybrid CdS-SiO <sub>2</sub> -TiO <sub>2</sub> composite film for photocatalytic fuel cell	R	CHEN
<b>O15</b>	6	Facile synthesis of flower-like copper oxide supported platinum nanoparticles as high-performing electrocatalyst for glycerol oxidation	Qing	ZHANG
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<b>O16</b>	2	Determination of water vapor pressure over and demonstration of water electrolysis in molten potassium dihydrogen phosphate KH <sub>2</sub> PO <sub>4</sub> at ~300 °C by means of Raman spectroscopy	Rolf	BERG

<b>O16</b>	3	Hydrazine electrooxidation performances at epitaxial IrPt (100) alloys	Sebastien	GARBARINO
<b>O16</b>	4	Hydrogen evolution reaction properties and characterization of nickel phosphorous nanotubes and nanospheres	Yida	DENG
<b>O16</b>	5	Hierarchical Nanostructured Carbons as Advanced Electrochemical Energy Materials	Baizeng	FANG
<b>O16</b>	6	Selective electrocatalytic reduction of CO <sub>2</sub> to formate on size controlled crystalline SnO <sub>2</sub> nanosphere catalyst	Yishu	FU

<b>Rm 208</b>	<i>Chair: Shichun Mu</i>		<i>Aug. 19, 15:30-16:45</i>	
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<b>O17</b>	2	The research on antireflection properties and carrier lifetime of silicon nanowire arrays prepared through mace technology	Wenhui	MA
<b>O17</b>	3	Ag <sub>2</sub> s-assisted growth of CuInS <sub>2</sub> /CdS heterostructured nanorods	Chao	ZOU
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<b>O18</b>	2	Understanding of nanocrystallization effect on structure stability in layered Li-rich material	Jin	MA
<b>O18</b>	3	Structural and property changes of LiNi <sub>0.5</sub> Mn <sub>1.5</sub> O <sub>4</sub> induced by octahedral vacancy and carbon coating	Hailong	WANG
<b>O18</b>	4	Non-precious Fe-N/C catalysts derived from ionic liquid for highly efficient oxygen reduction reaction	Fei	HE
<b>O18</b>	5	Ethanol-mediated co-precipitation: a general strategy to prepare 1D hierarchical manganese-based electrode materials for enhanced performances in lithium ion battery	Weixin	ZHANG
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<b>O03</b>	5	A proposal for a standardized start-up and shut-down protocol for polymer electrolyte membrane fuel cells	Max	SCHWAGER
<b>K08</b>	2	Mass transport in fuel cell electrodes	Marc	SECANELL
<b>O05</b>	4	A comparative study of the $\text{La}_{n+1}\text{Ni}_n\text{O}_{3n+1}$ Ruddlesden-Popper series ( $n = 1, 2, 3$ and $\infty$ ) for oxygen reduction and evolution reactions	Zhongping	SHAO
<b>O07</b>	2	Facile synthesis and electrochemical performance of $\text{MoO}_2/\text{Mo}_2\text{C}/\text{C}$ composite for lithium-ion batteries	Zhongping	SHAO
<b>K12</b>	2	Electrocatalysts for fuel cells	Minhua	SHAO
<b>O03</b>	4	A fuel cell hybrid vehicle powertrain emulator: energy management and experimental analysis	Di	SHEN
<b>K14</b>	1	Fluorine doped tantalum carbides as an efficient non-precious metal catalyst for hydrogen evolution reaction in acidic media	Pei Kang	SHEN
<b>O06</b>	5	Electrochemical synthesis of n-type poly(aniline-co-diphenylamine) and its novel photoelectric response	Qiaofang	SHI
<b>O12</b>	1	Effects of spinel phase content on electrochemical properties of the layered-spinel cathode material for lithium-ion batteries	CS	SHI
<b>K17</b>	2	Application of computational materials science in the development of lithium-ion battery materials	Siqi	SHI
<b>O13</b>	6	Graphene oxide/chitosan composites as efficient alkaline anion-exchange membranes for polymer electrolyte fuel Cells	Feifei	SONG
<b>O14</b>	3	Controlled synthesis of high-performance electrocatalysts for proton exchange membrane fuel cells	Yujiang	SONG
<b>O10</b>	2	Mesoporous cobalt oxide for oxygen evolution reaction under alkaline conditions: a comparative study of three synthesis methods	Stefania	SPECCHIA
<b>O14</b>	4	Influence of the metallic Ni- or Mo- precursors in the synthesis of $\text{Ti}_3\text{O}_5$ as potential support for methanol tolerant ORR Pt-based catalysts	Stefania	SPECCHIA
<b>K08</b>	3	3D multi-physic modeling and validation of a gas diffusion electrode for analyzing transport and kinetic phenomena of noble and non-noble based catalysts for PEMFC	Stefania	SPECCHIA

<b>O01</b>	6	Enhancing stability of iridium-based mixed metal oxides for electrochemical water splitting	Camillo	SPOERI
<b>O07</b>	1	Low cost nanocomposite catalysts for lithium-air batteries	Chunwen	SUN
<b>K12</b>	3	Nano-electrocatalysts for fuel cells and wastewater treatment	Shuhui	SUN
<b>K13</b>	2	Highly stable and active Pt-based electrocatalysts for PEM fuel cells	Andy	SUN
<b>O05</b>	5	Template-free synthesis of polyhedral Pd-Pt nanocrystals electrocatalysts for oxygen reduction reaction	Yongfu	TANG
<b>O10</b>	4	Synthesis and performance of anisotropic porous transport layers	Devin	TODD
<b>K01</b>	3	Degradation investigations of high temperature polymer electrolyte fuel cells with respect to the European project CISTEM	Peter	WAGNER
<b>O02</b>	4	In-situ synthesis of carbon fiber-supported SiO <sub>x</sub> as anode materials for lithium-ion battery	Biao	WANG
<b>O04</b>	3	Electrochemical performance of NaMnFe <sub>2</sub> (PO <sub>4</sub> ) <sub>3</sub> as a novel cathode material for sodium-ion battery	Yijing	WANG
<b>O05</b>	6	One step synthesis of fluorine and chlorine co-doped graphene for enhanced electrocatalytic reduction of oxygen	Shun	WANG
<b>O06</b>	1	Interface engineering of CVD-graphene for enhanced photovoltaic performance	Yu	WANG
<b>O08</b>	6	Chemical stability of La <sub>0.6</sub> Sr <sub>0.4</sub> Co <sub>0.2</sub> Fe <sub>0.8</sub> O <sub>3-δ</sub> as SOFC cathode	Xingwei	WANG
<b>O09</b>	2	A novel composite nonwoven separator for lithium-ion battery	Hong	WANG
<b>O09</b>	5	A preliminary study on the influence of fiber finess of nonwoven-based separator on the performance of li-ion battery	Hong	WANG
<b>O13</b>	3	Effect of nickel compound nanostructures on a three dimensional graphene network for high-performance supercapacitors	Xiaomin	WANG
<b>O13</b>	4	Nitrogen-doped porous carbon as electrode materials for high-performance supercapacitor	L	WANG
<b>O14</b>	2	Pt-based and non-pt-based electrocatalysts for fuel cells	Deli	WANG
<b>O17</b>	1	The design and electrochemical performances of micro-/nano- NiCo <sub>2</sub> O <sub>4</sub> materials	Yijing	WANG
<b>O18</b>	3	Structural and property changes of LiNi <sub>0.5</sub> Mn <sub>1.5</sub> O <sub>4</sub> induced by octahedral vacancy and carbon coating	Hailong	WANG
<b>K20</b>	3	Efficient electrochemical reduction of oxygen catalyzed by graphene quantum dots dispersed on graphene nanoribbons	Shun	WANG

<b>K05</b>	1	Improve the photoelectrochemical activity of graphitic carbon nitride by regulating its crystallinity	Jianhai	WANG
<b>K19</b>	1	Controlled synthesis of Pt nanostructures towards efficient electrocatalysis	Xin	WANG
<b>K09</b>	2	Pt-free catalyst for oxygen reduction reaction in fuel cells	Zidong	WEI
<b>O02</b>	6	Impact of electrolysis acid concentration on the characteristics and performance of electrolytic manganese dioxide for rechargeable alkaline (MnO <sub>2</sub> /Zn) batteries	David	WILKINSON
<b>O05</b>	3	Heteroatom (N and S) co-doped hierarchically porous carbons (HPCs) as high efficient non-precious metal catalysts for oxygen reduction reaction	Mingjie	WU
<b>O18</b>	6	A high-performing non-noble catalyst for oxygen reduction reaction derived from polyquaternium-2-N-Me (Fe, Co, Ni) hierarchically porous carbon	Mingjie	WU
<b>K15</b>	2	Advances on aqueous supercapacitors with high energy density	YP	WU
<b>O04</b>	1	A lithium bromide rechargeable battery with non-aqueous liquid electrolyte	Xiaoli	XI
<b>O03</b>	8	Hierarchical heterostructures as promising electrode materials for supercapacitors	Hui	XIA
<b>K13</b>	1	The synthesis and characterization of an intermetallic compound AuNb <sub>3</sub> /c as a novel ORR catalyst	Dingguo	XIA
<b>K16</b>	1	Surface and interface modulation for tuning electrocatalytic performance of metal nanocrystals	Yujie	XIONG
<b>O02</b>	2	New electrolyte additive for enhancing anode protection	Wu	XU
<b>O05</b>	7	One step synthesis of fluorine and chlorine co-doped graphene for enhanced electrocatalytic reduction of oxygen	Weilin	XU
<b>O13</b>	1	Facile fabrication of three-dimensional highly ordered structural polyaniline/graphene bulk hybrid materials for high performance supercapacitor electrodes	Hongyao	XU
<b>O16</b>	1	One-pot synthesis of a NiCo <sub>2</sub> O <sub>4</sub> nano-particles and carbon nanotubes hybrid as bi-functional cathode catalysts for rechargeable zinc-air batteries	Nengneng	Xu
<b>K11</b>	3	Design of advanced hybrid supercapacitors with high energy density	Xingbin	YAN
<b>O02</b>	5	Silicon anodes for lithium batteries - from science to engineering	Junbing	YANG
<b>O10</b>	3	Mesoporous metal nitride materials for PEM fuel cell application	Minghui	YANG
<b>O11</b>	1	Substrate effects on Li <sup>+</sup> deposition in lithium secondary batteries with competitive kinetics model	Yifu	YANG
<b>O17</b>	5	Facile synthesis of helically coiled porous carbon fiber and applications in electrochemistry catalyst fields	Keqin	YANG

<b>K14</b>	3	Selective edge-positioning of sulfur and nitrogen in dual-doped carbon nanosheets with interconnected structure for oxygen reduction reaction	Wensheng	YANG
<b>O11</b>	6	Electricity generation and bubble behaviors of an air-breathing microfluidic fuel cell with cylinder anodes operated under different tilted angles	Dingding	YE
<b>O03</b>	6	The sulfonated poly(phenylene) membranes containing multi-phenyl rings prepared by nickel catalyst	Jiho	YOO
<b>O03</b>	7	Studies of grafted and sulfonated poly(isatin-ethersulfone) membranes by super acid-catalyzed reaction for PEMFC applications	Jiho	YOO
<b>O04</b>	4	Nanocarbon-based structured materials for catalyst supports in fuel cells and electrochemical biosensors	Xuan	ZHANG
<b>O10</b>	5	Development of a high active area air-breathing micro-direct methanol fuel cell	Yinghui	ZHANG
<b>O12</b>	6	Novel MnCo <sub>2</sub> O <sub>4</sub> assemblies as anode materials for Li-ion battery	SM	ZHANG
<b>O15</b>	6	Facile synthesis of flower-like copper oxide supported platinum nanoparticles as high-performing electrocatalyst for glycerol oxidation	Qing	ZHANG
<b>O18</b>	1	Key materials designation for lithium/sulfur batteries with high energy density	Hongzhang	ZHANG
<b>O18</b>	5	Ethanol-mediated co-precipitation: a general strategy to prepare 1D hierarchical manganese-based electrode materials for enhanced performances in lithium ion battery	Weixin	ZHANG
<b>K02</b>	2	Experimental and computational study of proton exchange membrane electrolyzer cells for high-efficiency hydrogen production	Feng-Yuan	ZHANG
<b>K03</b>	3	Recent progress on flow battery: research and development	Huamin	ZHANG
<b>K11</b>	2	Hierarchical three-dimensional carbon nanostructures for flexible high-energy supercapacitors	Yuegang	ZHANG
<b>O04</b>	5	Facile synthesis of core-shell structured s@polypyrrole composite as cathode of lithium-sulfur battery with ultrahigh capacity	Hongbin	ZHAO
<b>O04</b>	8	Metal organic framework derived porous carbon and metal oxide as anode materials for sodium-ion battery	Yang	ZHAO
<b>O12</b>	5	Preparation of free-standing 3D graphene foams	Naiquin	ZHAO
<b>K07</b>	1	Multistate near-infrared electrochromism and memory in electropolymerized films of ruthenium complexes	Yu-Wu	ZHONG
<b>O04</b>	7	Dissolution and liquid crystals phase of polymeric carbon nitride	Zhixin	ZHOU
<b>O08</b>	2	Hierarchically porous N-doped graphene foam as highly efficient electrocatalysts for oxygen reduction	Xuejun	ZHOU

<b>O13</b>	2	Controllable synthesis of three-dimensional hierarchical porous carbon networks via soluble salts in-situ templates as supercapacitor electrodes	S	ZHU
<b>O17</b>	6	Effect of MEA fabrication techniques on the cell performance of nitrogen and sulfur co-doped mesoporous carbon materials electrocatalyst for H <sub>2</sub> /air alkaline membrane fuel cell	Taishan	ZHU
<b>K14</b>	2	The research of two backbones for high temperature proton	Hong	ZHU
<b>K13</b>	3	Alkaline polymer electrolyte fuel cells: progress and challenges	Lin	ZHUANG
<b>O17</b>	3	Ag <sub>2</sub> s-assisted growth of CuInS <sub>2</sub> /CdS heterostructured nanorods	Chao	ZOU