



**International Meeting on Energy Storage Devices (IMESD-2018)
& Industry-Academia Conclave (IAC)**

December 10-12, 2018

**Department of Physics,
Indian Institute of Technology Roorkee,
Roorkee - 247667, Uttarakhand, India**



Day 0: December 09, 2018, Sunday	
Time	Programme
4.30 PM-10.00 PM	Registration & Tea Break (Venue: Lecture Hall Complex)
Day 1: December 10, 2018, Monday	
8.30 AM-9.45 AM	Registration (Venue- Multi Activity Centre (MAC), Auditorium)
9.45 AM-10.30 AM	Inauguration and Inaugural address by Chief Guest followed by Director, IITR Lecture
10.30 AM-11.00 AM	Tea Break
Technical Session 1 (Venue-MAC, Auditorium)	
Chairperson: Prof. V. Thangadurai	
11.00 AM-11.50 AM	Prof. Arumugam Manthiram, The University of Texas at Austin “Electrical Energy Storage: Near-Term and Long-Term Perspectives”
11.50 AM- 12.40 PM	Prof. Dominique Guyomard, Université de Nantes, France “New Electrode and Solid Electrolyte Materials for Energy Storage Applications”
12.40 PM-1.00 PM	Dr. Chris D'Couto , President & CEO, XNRGI, USA “Designing a Re-chargeable Lithium Battery from First Principles to Enhance, Performance, Safety and Cost”

1.00 PM-2.30 PM	LUNCH (Lecture Hall Complex (LHC), Lawn)		
Technical Session 2 (Lecture Hall Complex)			
	Rechargeable Battery (Hall 1)	Supercapacitor (Hall 2)	Electrolytes for Energy Storage Devices(Hall 3)
	Chair/Co-Chair Dr. M. V. Reddy / A. Mukhopadhyay	Chair/Co-Chair Prof. Ramesh Chandra / Prof. Rajan Jose	Chair/Co-Chair Prof. H. Yamada /Prof. Ajay
2.30 PM-3.00 PM	Neeraj Sharma, UNSW, Australia "Crystallography and Batteries"	S. A. Hashmi, University of Delhi "EDLC Supercapacitor: Issues & Recent Developments"	Daniel Rettenwander, ICTM, GRAZ, Austria "New Insights in Promising Solid Electrolytes"
3.00 PM-3.20 PM	P. Barpanda, IISC, Bangalore "Fe-based Mixed Polyanionic Cathode for Na-ion and K-ion Batteries"	D. Pradhan, IIT Kharagpur "Greener Synthesis Route to Nanostructured Tungsten Oxide for Solid-State Asymmetric Supercapacitor Device"	A Dalvi, BITS Pilani "Li ⁺ ion NASICON-Glass-Ceramics Prepared by Milling Assisted Synthesis Route: Assessment of Structure and Enhanced Electrical Transport"
3.20 PM-3.40 PM	M. M. Shaijumon, IISER Thiruvananthapuram "Functional Hybrid Materials for Rechargeable Batteries"	Rahul R. Salunkhe, IIT Jammu "Nanoarchitected Carbon Materials for Supercapacitor Applications"	Rajnish Dhiman, University of Himachal Pradesh "Investigation of Solid Electrolyte Interfaces in Li-ion and Li-O ₂ Battery Cathodes"
3.40 PM-4.00 PM	Sevi Murugavel, University of Delhi "Nanostructured Maricite NaFePO ₄ for Sodium Ion Batteries"	J.N. Behera, NISER Bhubaneswar "Vanadium Chalcogenides-RGO/CNTs Hybrids for High Energy Supercapacitors and Electrochemical Hydrogen Evolution Reaction"	M. Sathish, CSIR-CECRI, Karaikudi "Fabrication of High Energy Supercapacitors Using Bio-derived Porous Carbon: Role of Electrolytes"
4.00 PM-4.10 PM	IMESD18-O1 Manoj K. Jangid IIT Bombay	IMESD18-O3 Balasubramaniam Gnana Sundara Raj Chonbuk National University, Republic of Korea	IMESD18-O5 Sushobhan Kobi IIT Bombay
4.10 PM-4.20 PM	IMESD18-O2 Rémi Andre KEP Technologies, Caluire, France	IMESD18-O4 Anukul K. Thakur IISER, Berhampur	IMESD18-O6 Rajinder Kaswan BITS Pilani
4.20 PM-4.30 PM	Tea Break		
Technical Session 3 (Lecture Hall Complex)			

	Rechargeable Battery (Hall 1)	Supercapacitor (Hall 2)	Electrolytes for Energy Storage Devices (Hall 3)
	Chair/Co-Chair Prof. Neeraj Sharma/Prof. Tulika Maitra	Chair/Co-Chair Prof. Amreesh Chandra/Prof. R. K. Gupta	Chair/Co-Chair Prof. Ashok Kumar/ Dr. R. P. Rao
4.30 PM-4.40 PM	IMESD18-O7 Farjana J. Sonia IIT Bombay	IMESD18-O13 P. Vishnu Vardhan SASTRA Deemed University, Tamilnadu	IMESD18-O19 M. Dinachandra Singh Amity University
4.40 PM- 4.50 PM	IMESD18-O8 Raja Sen Shiv Nadar University	IMESD18-O14 Arvind Singh MNNIT, Allahabad	IMESD18-O20 Arihant Bhandari IIT Kanpur
4.50 PM- 5.00 PM	IMESD18-O9 Sumit Ranjan Sahu ARCI, Chennai	IMESD18-O15 Mrs. Jayassre Ramakrishnan VESIT, Mumbai	IMESD18-O21 N. Angulakshmi WUST, Wuhan, China
5.00 PM-5.10 PM	IMESD18-O10 Anshuman Chaupatnaik IISC Bangalore	IMESD18-O16 Anuja.A Yadav The Institute of Science, Mumbai	IMESD18-O22 Stelbin Peter Figerez CUST, Cochin
5.10 PM-5.20 PM	IMESD18-O11 Krishnakanth Sada IISC Bangalore	IMESD18-O17 P.Thomas CPRI, Bangalore	IMESD18-O23 Mohanapriya K Institute of Chemical Technology, Mumbai
5.20 PM-5.30 PM	IMESD18-O12 Varchaswal Kashyap NCL Pune	IMESD18-O18 Dr. M. Ulaganathan CECRI, Karaikudi	IMESD18-O24 T. Mallikharjuna Rao CPRI, Bangalore
7:00 PM-10.30 PM	Gala Dinner (Ambrosia Sarovar Portico, 12th Milestone, Near to Patanjali Yogpeeth, Haridwar)		
End of Day 1			
Day 2: December 11, 2018, Tuesday			
Technical Session 4 (Lecture Hall Complex)			
Chairperson: Prof. A. Manthiram			
9.30 AM-10.15 AM	Prof. Hirotoshi Yamada, Nagasaki, Japan “All-Solid-State Batteries: Hopes and Challenges -Focusing Garnet-type Electrolytes”		
10.15 AM-11.00 AM	Prof. V. Thangadurai, University of Calgary, Canada “A Solid Future Towards Next-Generation Lithium Batteries”		
11.00 AM-11.15 AM	Tea Break		
Technical Session 5			

Rechargeable Battery (Hall 1)		Supercapacitor (Hall 2)	Electrolytes for Energy Storage Devices (Hall 3)
	Chair/Co-Chair Dr. R. Prakash / Prof. M. M. Shaijumon	Chair/Co-Chair Prof. H. A. Hashmi/ Prof. B.R. Sankapal	Chair / Co-Chair Prof. Daniel / Dr. M. Stephan
11.15 AM-11.45 AM	M. V. Reddy, NUS, Singapore “Vanadium based Cathode Materials for Lithium Batteries”	Rajan Jose, UMP, Malayasia “Functionalizing Biomass Carbon for Energy Storage”	Dillip K. Pradhan, NIT Rourkela “Investigation of Ion Conduction Mechanism and Relaxation Dynamics in Polymer Nano-Composite Electrolytes”
11.45 AM-12.05 PM	A. Mukhopadhyay, IIT Bombay “Anode Materials for Li-ion and Na-ion Batteries”	Amreesh Chandra, IIT Kharagpur “Need of Revisiting Performance of Nanostructured Magnetic Oxides based supercapacitors under Magnetic Field”	P.R. Krishna, CUST, Kerala “Extraordinary Cycling Stability of LiFePO ₄ /rGO Composite Electrode with PAN based Polymer Gel Electrolyte in High Temperature LIB
12.05 PM-12.25 PM	R. K. Singh, Banaras Hindu University “Pristine and Coated Cathode Materials for High Energy Density Rechargeable Batteries”	R. K. Gupta, IIT Kanpur “Metal Oxide Nanostructures-Based Supercapacitor Devices for Energy Storage Applications”	R. Prasada Rao, C-MET, Pune “Solid Electrolytes for Li and Na Sulfur Batteries”
12.25 PM-12.45 PM	A. M. Stephan, CSIR-CECRI, Karaikudi “Enhanced Cycling performance of Lithium-Sulfur Batteries by Permselective Membranes”	S. Parida, IIT Bombay “Supercapacitors of Onion-like Carbons: Doping and Interfacial Phenomena”	Ram Singh, DTU, Delhi “Ionic liquids: Synthesis and Utility as Electrolytes”
12.45 PM-1.05 PM	B. K. Srivastava, Rigaku Corporation, Japan “In-situ X-ray studies of storage devices and other applications”	Alok Srivastava, DMSRDE, DRDO, Kanpur “3-D Nanostructured Mixed Metal Oxide Nanowires for High density Energy Storage Applications”	R. Kalai Selvan, Bharathiar University, Tamilnadu “Bio-mass derived activated carbon for high performance supercapacitor in aqueous electrolyte”
1.05 PM-2.30 PM	LUNCH (Lecture Hall Complex Lawn)		

Technical Session 6 (Lecture Hall Complex)			
Rechargeable Battery (Hall 1)		Supercapacitor (Hall 2)	Alternative Storage Devices (Hall 3)
	Chair/Co-Chair Prof. B. Barpanda / Prof. Amit Gupta	Chair/Co-Chair Dr. Alok Srivastava /Prof. D. Pradhan	Chair/Co-Chair Prof. Anshuman Dalvi /P. R. Krishna
2.30 PM-2.50 PM	V. Aravindan, IISER, Tirupati “Recent Progress in High Energy Li-Ion Capacitors”	R. K. Sharma, University of Delhi “Graphene Nanoribbon: Ultrahigh Performance Supercapacitive Energy Storage”	Ashok Kumar, Tezpur University “RGO-PEDOT:PSS Nanocomposites for Enhanced Electro Catalytic Activity Towards Methanol Oxidation in Alkaline Media for DMFC Fuel Cells”
2.50 PM-3.10 PM	A. K. Panwar, DTU Delhi “Recent Development in Cathode Materials for Lithium ion Batteries”	Rik Rani Koner, IIT Mandi “Engineered Nano-Materials for Energy Storage and Conversion Systems”	S. K. Shukla, IIT BHU “Solar Thermal Energy Storage”
3.10 PM-3.30 PM	S. K. Behera, NIT Rourkela “Pre-ceramic polymer derived hybrids for extreme rate capable Li-ion battery anodes”	B. R. Sankapal, VNIT, Nagpur “Flexible Solid-State Supercapacitor: State Of Art From Synthesis to Device Grade Application”	Dipankar Mandal, INST, Mohali “Piezoelectric Nanogenerators for Self-Powered electronics”
3.30 PM-3.50 PM	Ambesh Dixit, IIT Jodhpur “Jahn-Teller Distortion in $\text{Li}_2\text{TMSiO}_4$ (TM=Transition Metal) High Energy Density Cathode Materials: A boon or Curse”	Anurag Gaur, NIT Kurukshetra “Future of Supercapacitor as Energy Storage Device”	Sunil S. Kushvaha, CSIR-NPL-Delhi “Growth and Characterization of III-Nitrides Nanostructures for Various Applications”
3.50 PM-4.00 PM	IMESD18-O25 B. Senthilkumar IISC Bangalore	IMESD18-O28 P. E. Lokhande VIT, Pune	IMESD18-O31 Maurya Gyanprakash IIT Madras
4.00 PM-4.10 PM	IMESD18-O26 Chinnasamy Murugesan IISC Bangalore	IMESD18-O29 Sumeet Kumar IIT Kharagpur	IMESD18-O32 Dr. Narendar Nasani C-MET, Pune
4.10 PM-4.20 PM	IMESD18-O27 K. Shree Kesavan SSN College of Engg. Kalavakkam	IMESD18-O30 Roby Soni NCL, Pune	IMESD18-O33 Prashant Kumar Gupta IIT Kanpur
4.20 PM- 4.30 PM	Tea Break		
4.30 PM- 6.30 PM	POSTER SESSION (Lecture Hall Complex Lobby)		

7.00 PM-8.00 PM	POPULAR LECTURE by Prof. Vijaymohan K. Pillai, Director, CSIR-CECRI, KARAIKUDI, India Chair: Prof. Anjan Sil
8.00 PM Onwards	Dinner (Lecture Hall Complex)
End of Day 2	
Day 3: December 12, 2018, Wednesday, Lecture Hall Complex (LHC)	
Industry-Academia Conclave (IAC)-2018 Energy Storage Devices : Recent Advances and Future Challenges	
8.30 AM-9.30 AM	Registration (only for IAC-2018 Participants)
9.30 AM- 11.15 AM	IAC, Inauguration and Address by Chief Guest: Prof. Ashok Jhunjhunwala, IIT Madras, India & Plenary Lecture by Prof. J. T. S. Irvine, University of St. Andrews, UK “New Materials, Structures and Concepts for Solid Oxide Cells” Chair: Prof. Vijaymohan K. Pillai
11.15 AM-11.30 AM	Tea Break
Technical session 7 Moderators/Chairs: Prof. Dominique Guyomard and Prof. H. Yamada	
11.30 AM-11:55 AM	Prof. S. Gopukumar CSIR-CECRI “Towards Indigenous Li-ion Battery and Beyond”
11:55 AM- 12:20 PM	Prof. Sagar Mitra IIT Bombay “Cell Manufacturing in India- A Reality Check”
12.20 PM-12.35 PM	Dr. P.C. Maithani Advisor, MNRE, Delhi “Energy Storage in Indian: Ministry of Renewable Energy Perspective”
12.35 PM-12.50 PM	Dr. Sanjay Bajpai Head Division, TMD, DST, Delhi “Opportunity and Initiatives of DST-Govt of India Towards Energy Storage Devices”

12.50 PM-01.05 PM	Dr. M. Venkateswarlu, Amar Raja Batteries Ltd. Tirupati “Research and Development activities of secondary batteries particularly of Li- batteries at Amar Raja”
01:05 PM-01.20 PM	Dr. Chris D' Couto, President & CEO, XNRGI, USA “Recent Advances in Battery Technology at XNRGI”
1.20 PM-2.30 PM	LUNCH (LECTURE HALL COMPLEX)
	Technical Sessions 8 Moderators/Chairs: Prof. Sagar Mitra and Dr. Gopukumar
2.30 PM-2.50 PM	R. Prakash CAEM, ARCI, Chennai “Development of Electrode and Binder Materials for Lithium-ion Battery for Electric Vehicle Application”
2.50 PM-3.10 PM	C. Subramaniam IIT Bombay “Achieving High Energy Density in Textile-Integrated Washable Supercapacitors by Interweaving Carbon Nanotubes”
3.10 PM-3.30 PM	Amit Gupta IIT Delhi “Mathematical Modeling of Capacity Deterioration and Heat Generation in Li-ion Batteries”
3.30 PM-3:50 PM	Kuldeep Rana CPRI, Bangalore “Recent Development on Flexible Lithium-Ion Batteries, Safety Consideration and Test Procedures”
3:50 PM- 4.05 PM	Kirtan Sahoo NSTL, DRDO “Investigations of 4.7 V Li-ion Cell: From In-house Material Synthesis to Pouch Cell Fabrication”
4.05 PM Onwards	Valedictory Function and Award Ceremony Followed by Tea
	End of Day 3