

(19) Batteries, Fuel Cells and Supercapacitors

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(19) Batteries, Fuel Cells and Supercapacitors

DETAILED PROGRAMME

Thursday, 19-12-2013

Session I : 10.15 – 11.15

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| 10.15 - 10.45 Invited Talk (1) | <u>S. Okada</u> T. Kidera, N. Dimov H. Hori, E. Kobayashi A. Kitajou and J. Yamaki | ABS - Email - ICA State-of-the-Art Na-Ion Batteries as Post Li-Ion Battery |
| 10.45 - 11.00 Oral (1) | Aruna K Kunhiraman and <u>R. Manoharan</u> | ABS - 139 - ICA SrMoO ₄ Spindle Material for Electrochemical Hydrogen Evolution from Acid Water |
| 11.00 - 11.15 Oral (2) | Ziyauddin Khan and <u>Deepa Khushalani</u> | ABS - 190 - ICA Bismuth Vanadate: Material for Sodium-Ion Supercapacitors |

Session II : 11.45 – 13.15

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| 11.45 - 12.15 Invited Talk (2) | <u>M.V. Reddy</u> and B.V.R. Chowdari | ABS - 755 - ICA Spinel oxides as Electrode Materials for Lithium Ion Batteries |
| 12.15 - 12.30 Oral (3) | <u>P V S Krishna</u> K Ramya K.S.Dhathathreyan | ABS - 260 - ICA Development of Anion Exchange Membrane based Supercapacitors |
| 12.30 - 12.45 Oral (4) | <u>Prabeer Barpanda</u> Guandong Liu Maxim Avdeev Chris D. Ling Sai-Cheong Chung Yuki Yamada and Atsuo Yamada | ABS - 316 - ICA Alkali Metal Pyrophosphate Polyanionic Cathodes for Rechargeable Batteries |
| 12.45 - 13.00 Oral (5) | <u>A. Gautam Das</u> B. Kang Soo Lee C. Seok Hee Lee and D. Young Soo Yoon | ABS - 338 - ICA Hyperbranched polysulfone membrane for direct urea fuel cell applications |
| 13.00 - 13.15 Oral (6) | <u>Samita Thakur</u> O.P. Pandey, K. Singh | ABS - 757 - ICA Bi _{1-x} Sr _x FeO ₃ (x=0.40, 0.50) Perovskite Cathode for Intermediate Temperature Solid Oxide Fuel Cells |

Friday, 20-12-2013

Session III : 11.45 – 13.15

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| 11.45 - 12.15 Invited Talk (3) | <u>Tomonaga Ueno</u> Hiroshi Harada and Nagahiro Saito | ABS - 1271 - ICA The Surface Modification of CNT for High Dispersion in Water |
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| 12.15 - 12.30 Oral (7) | <u>Joysurya Basu</u> Shintaro Yasui Zhi-Peng Li John E. Bonevich Ichiro Takeuchi and Leonid A. Bendersky | ABS - 801 - ICA Structural Origin of Electrochemical Activity in Transverse Compositionally Graded Li(Ni, Mn) _x O _y Cathodes |
| 12.30 - 12.45 Oral (8) | <u>Palani Raja Jothi</u> and Sangeetha Dharmalingam | ABS - 887 - ICA An efficient proton conducting electrolyte membrane for high temperature fuel cell in aqueous- free medium |
| 12.45 - 13.00 Oral (9) | <u>Shyamal K. Das</u> and Lynden Archer | ABS - 930 - ICA Self-assembled Carbon Infused Molybdenum Disulfide Nanostructure for Lithium Battery |
| 13.00 - 13.15 Oral (10) | <u>Saptarshi Dhibar</u> and Chapal Kumar Da | ABS - 963 - ICA Manganese Doped Polypyrrole/Multi-Walled Carbon Nanotubes Nanocomposites for Supercapacitor Applications |

Session III : 14.00 – 15.30

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| 14.00 - 14.15 Oral (11) | <u>Ashutosh K. Singh</u> Debasish Sarkar Gobinda Gopal Khan and Kalyan Mandal | ABS - 966 - ICA Nickel Oxide based Nano-Heterostructures as remarkable supercapacitor electrodes |
| 14.15 - 14.30 Oral (12) | <u>Gurbinder Kaur</u> Gary Pickrell and Dan Homa | ABS - 988 - ICA Composite seals and their interaction with YSZ and Crofer 22 APU for planar solid oxide fuel cells. |
| 14.30 - 14.45 Oral (13) | <u>Dijo Damien</u> Parambath M. Sudeep, Tharangattu N. Narayanan, Maleimadam R. Anantharaman, Pulickel M. Ajayan, and Manikoth M. Shaijumon | ABS - 1032 - ICA Fluorinated Graphene-based High Performance Electrodes For Primary Lithium Batteries |
| 14.45 - 15.00 Oral (14) | <u>Anirudha Jena</u> N. Munichandraiah and S. A. Shivashankar | ABS - 1114 - ICA Binder-free Co ₃ O ₄ cubes grown by MOCVD as efficient negative electrode for Li-ion batteries |
| 15.00 - 15.15 Oral (15) | <u>Tanmay Sarkar</u> and Mridula Dixit Bharadwaj | ABS - 1184 - ICA Effect of cation substitution on the electrochemical potential of LiCoBO ₃ : An ab initio study |
| 15.15 - 15.30 Oral (16) | <u>Anulekha K.H.</u> Chandra S. Sharma and Tata N. Rao | ABS - 1573 - ICA Lithium titanate nanostructures and their effect of morphology in electrochemical testing |

Session IV : 16.00 – 18.00

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| 16.00 -16.15 Oral (17) | M.P. Karthikayini and <u>R. Kothandaraman</u> | ABS - Email - ICA Enhanced Oxygen Reduction Reaction Activity of Mn based Non-Precious Metal catalyst in the presence of EDTA |
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| 16.15 - 16.30 Oral (18) | <u>Jen-Ming Yang</u> Nian-Ci Wang | ABS - Email1 - ICA Preparation and Characterization of Poly(vinyl alcohol)/sodium alginate Blended Membrane for Direct Methanol Fuel Cell |
| 16.30 - 16.45 Oral (19) | <u>K. M. Shareef and</u> T.S. Natarajan | ABS - Email2 - ICA Fabrication of Flexible Solid State Supercapacitor from Electrospun Nanocrystals of Nickel Oxide (NiO) |
| 16.45 - 17.00 Oral (20) | U. Balachandran, T.H. Lee C.Y. Park and S.E. Dorris | ABS - 842a - ICA Solid-Oxide Fuel Cell based on Proton-Conducting Ceramic Electrolyte |

Poster Session :

Thursday, 19-12-2013, 14.00-15.30

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| 19 - Poster - 01 | Pura Ram, Mahesh Kumar, Vivek Dixit and Rakesh K Sharma | Synthesis, physical and electrochemical characterization of Gd(III) doped LiMn_2O_4 cathode material for lithium ion rechargeable batteries | ABS - 64 - ICA |
| 19 - Poster - 02 | R. Babu, A. K. Pattanaik, K. Ananthasivan and K. Nagarajan | Enthalpy of formation of intermetallic compound USn_3 | ABS - 379 - ICA |
| 19 - Poster - 03 | K. Yellaeswara Rao, C.S. Nimisha, G. Mohan Rao | Mixed oxide thin film cathodes deposited by RF sputtering using powder target for all solid state batteries | ABS - 395 - ICA |
| 19 - Poster - 04 | Surender Kumar, C. Selvaraj, N. Munichandraiah and L.G. Scanlon | Au-RGO as oxygen electrode catalyst for Li-air cell, a hybrid battery-fuel cell device | ABS - 403 - ICA |
| 19 - Poster - 05 | M.B. Sahana, S.Vasu, C.Sudakar and R.Gopalan | Structure electrochemical property correlation of LiFePO_4 prepared by hydrothermal synthesis | ABS - 440 - ICA |
| 19 - Poster - 06 | T. Viswanathan | Two Dimensional Nano-Materials beginning to Platinum designed for Hydrogen Storage Application | ABS - 485 - ICA |
| 19 - Poster - 07 | Vinay S. Kandagal, Mridula Dixit Bharadwaj | Bandgap Engineering of Functionalized Polyethylene Oxide (PEO) Electrolyte | ABS - 585 - ICA |
| 19 - Poster - 08 | Rajeev K. Gautam and Kamal K. Kar | Synthesis and characterization of exfoliated graphite-based highly conductive composite bipolar plates for PEM fuel cell | ABS - 599 - ICA |
| 19 - Poster - 09 | Ershad Ali Mistri, Susanta Banerjee | Sulfonated poly(ether imide)/silica hybrid thin film as electrolyte membranes for fuel cell | ABS - 635 - ICA |
| 19 - Poster - 10 | R. Padmavathi and D. Sangeetha | Functionalized carbon supports for Platinum Catalyst in Proton Exchange Membrane Fuel Cells | ABS - 734 - ICA |

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| 19 - Poster - 11 | E. Mahendiravarman and D. Sangeetha | Comparative performance of an anion and cation exchange membranes on ion transport resistance in microbial Fuel Cells | ABS - 735 - ICA |
| 19 - Poster - 12 | Shyamal K. Das., Shaomao Xu and Lynden Archer | Metal-Carbon Dioxide Battery | ABS - 930 - ICA |
| 19 - Poster - 13 | A.Kedharnath, G. Arulkumar, K.V. Hari Krishnan, J. Palani Raja and D. Sangeetha | Tungsten oxide on nitrogen doped graphene for alkaline fuel cells | ABS - 948 - ICA |
| 19 - Poster - 14 | Rajesh Thomas and G. Mohan Rao | Phase and DIMensionality of Tin Oxide @graphene nanosheet matrix on its electro-chemical performance as anode for LIB | ABS - 955 - ICA |
| 19 - Poster - 15 | D. Sarkar, G.G. Khan, A.K. Singh and K. Mandal | Design and Synthesis of α -Fe ₂ O ₃ /MnO ₂ Core - Shell Nanowire Heterostructure arrays for High Performance Pseudocapacitor electrodes | ABS - 968 - ICA |
| 19 - Poster - 16 | Pavan Sharma, Dijo Damien, Kalaivanan Nagarajan, Manikoth M. Shaijumon and Mahesh Hariharan | Perylene Polyimide based Organic Electrode materials for Li-ion Batteries | ABS - 1032 - ICA |
| 19 - Poster - 17 | Aswathi Ganesan, Ritwika Mukherjee, Jyothishraj and M.M. Shaijumon | Nanoporous rice husk-derived carbon for gas storage and energy applications | ABS - 1048 - ICA |
| 19 - Poster - 18 | Debasis Ghosh, Chapal Kumar Das | Hydrothermal synthesis of MnMoO ₄ /graphene Hybrid Composite for Supercapacitor application | ABS - 1291 - ICA |
| 19 - Poster - 19 | Johnson Jacob, Dr. Ranjit Bauri | Optimization of YSZ powder slurry composition to get good thin electrolytic tapes for SOFC single cell using in-house built tape casting machine | ABS - 1310 - ICA |
| 19 - Poster - 20 | Biswajoy Bagchi, Rajendra N. Basu | Sol-gel synthesis of nanocrystalline Ni/Yttria stabilized zirconia anode for solid oxide fuel cell | ABS - 1377 - ICA |
| 19 - Poster - 21 | N.Zetsu, Y.Mizuno, K.Yubuta, T.Sakaguchi, T.Saito, H.Wagata, S.Oishi and K.Teshima | A new preparation route to smart interface for All-Solid-State Lithium Ion Rechargeable Batteries | ABS - 1418 - ICA |
| 19 - Poster - 22 | M. Satyanarayana, A.K. Jibin, U.V. Varadaraju | Synthesis, Structure and Electrochemical Studies of NaNi _{0.4} Mn _{0.2} Co _{0.2} O ₂ for Na-ion Battery Applications | ABS - 1424 - ICA |
| 19 - Poster - 23 | Umeshbabu Ediga and G. Ranga Rao | Tuning the morphology of NiCo ₂ O ₄ by temperature under facile hydrothermal condition and its effect on magnetic and psudocapacitence behavior | ABS - 1456 - ICA |

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| 19 - Poster - 24 | Joydev Manna, Binayak Roy and Prathibha Sharma | Co-B supported on bentonite as an effective novel catalyst for sodium borohydride hydrolysis | ABS - 1463 - ICA |
| 19 - Poster - 25 | Santimoy Khilari, and Debabrata Pradhan | Performance of MnO ₂ /polypyrrole nanocomposite for oxygen reduction reaction catalyst in a single chambered microbial fuel cell | ABS - 1468 - ICA |
| 19 - Poster - 26 | S. Ramesh, K.C. James Raju and C. Vishnuvardhan Reddy | Effect of Ca ²⁺ on the properties of Dy doped ceria electrolyte for IT-SOFC | ABS - 1541 - ICA |
| 19 - Poster - 27 | N. Sankara Subramanian, M. Lokesh and N.R. Bharath | Investigation on the sol-gel synthesized LiCoO ₂ for Lithium Ion Battery Application | ABS - 1601 - ICA |
| 19 - Poster - 28 | Rakesh, Satyanarayana M, Kothandaraman, R. and Varadaraju U.V. | NaVP ₂ O ₇ cathode material for Na-ion and Li-ion battery application | ABS - 1622 - ICA |
| 19 - Poster - 29 | K. Mohan Kant and Nini Pryds | Enhanced ionic conductivity in strained Gd doped CeO ₂ thin films | ABS - 1646 - ICA |
| 19 - Poster - 30 | Veerababu, M. U.V.Varadaraju, Kothandaraman, R. | Indole dione based organic cathode for lithium | ABS - Email - ICA |
| 19 - Poster - 31 | Bhalchandra Kakade | Enhanced activity and durability electroreduction of oxygen at chemically ordered intermetallic PtFeCo/C | ABS - Email 1 - ICA |
| 19 - Poster - 32 | A.N. Rajbhandari, K. Manandhar and R.R. Pradhananga | Mott-Schottky analysis of laboratory prepared polycrystalline Ag ₂ S-AgI materials | ABS - Email 2 - ICA |
| 19 - Poster - 33 | K.V. Hemalatha, S.N. Karthick, C. Justin Raj, B. Suresh Kannan, Yongseok Jun, Hee Je Kim | ZnCo ₂ O ₄ and NiCo ₂ O ₄ microsphere prepared by simple polymer assisted solgel technique for supercapacitor application | ABS - Email 3 - ICA |
| 19 - Poster - 34 | Ravi Nandan, Gopal Krishna Goswami, Karuna Kar Nanda | Platinum Free Cathode Catalyst for Alkaline Direct Fuel Cells | ABS - Email 4 - ICA |
| 19 - Poster - 35 | Satya Krishna Nippani, Piyush Kuchhal, N. Krishna Jyothi, G. Sunita Sundari, J. Ramesh Babu and K. Vijaya Kumar | Structural and A.C. Conductivity studies of Lithium ion conducting PAN based Polymer Electrolyte system | ABS - Email 5 - ICA |
| 19 - Poster - 36 | Tithi Sen, B. Sureshbabu, S. Sankararaman and R. Kothandaraman | Development of green and sustainable lithium battery | ABS - Email 6 - ICA |