## **Table of Contents**

Preface, Committees and Organizers, Sponsors, Plenary and Keynote Lectures and Invited Lectures

## I. Nano Materials: Synthesis and Characterisation

<b>Synthesis and Characterization of Zn Nanoparticles by Using Hetero-Bicyclic Compound</b> V. Pushpanathan and D.S. Kumar	3
Hexamine Assisted Hydrothermal Synthesis of Eu <sup>3+</sup> Activated Na <sub>0.5</sub> La <sub>0.5</sub> MoO <sub>4</sub> Microstructures: Synthesis, Structure and Morphological Investigations R. Krishnan, J. Thirumalai, G. Shanmuganathan, I.B. Shameem Banu and R. Chandramohan	9
Effect of Surfactants on Structural and Dielectric Properties of Cobalt Ferrite H. Khatri, G. Packiaraj and R.B. Jotania	14
Modified Sol-Gel Production of Nano SDC20 Materials S. Ramesh, K.C. James Raju and C.V. Reddy	19
Effect of Heat Treatment on Structural, Magnetic and Electric Properties of Z-Type Barium Cobalt Hexaferrite Powder N. Solanki, G. Packiaraj and R.B. Jotania	24
Kinetics of Silver Nanoparticle Growth Using DMF as Reductant – Effect of Surfactants P. Sarkar, C. Parameswaran, C. Harish, M.B. Chandra and A.N. Grace	30
Microstructure and Adhesion Properties of a-CN and Ti/a-CN Nanocomposite Thin Films Prepared by Hybrid Ion Beam Deposition Technique  D. Vijoi Pharethy, O. Vong and D. Notoroj	36
P. Vijai Bharathy, Q. Yang and D. Nataraj  In Situ Synthesis of Copper Phthalocyanine Modified Multiwalled Carbon Tube and its  Electrocatalytic Application towards the Oxidation of Nitrite	
K.N. Porchelvi, S. Meenakshi and K. Pandian  Study on the Structure and Morphology of Ce <sub>x</sub> Zr <sub>(1-x)</sub> O <sub>2</sub> Mixed Oxides  M.N. Abu Shah, S.H. Md Nor, K.N. Ismail and A. Hadi	40 46
Morphological Studies of Electrodeposited Cobalt Based Coatings: Effect of Alloying Elements N.A. Resali, K.M. Hyie, W.N.R. Abdullah and N.H. Saad	52
Plasma Enhanced Chemical Vapor Deposition Time Effect on Multi-Wall Carbon Nanotube Growth Using C <sub>2</sub> H <sub>2</sub> and H <sub>2</sub> as Precursors Y. Noriah, N.H. Saad, M. Nabipoor, S. Sulaiman and D.B.C. Sheng	58
Structural, Electrical and FT-IR Studies of Nano Zn <sub>1-x</sub> Ca <sub>x</sub> O by Solid State Reaction Method	
T. Das, B.K. Das, K. Parashar, S.K.S. Parashar and R.A. Nagamalleswara	63
Crystal Structural Studies of ZnO Nanorods and their Band Gaps M.F. Kasim, N. Kamarulzaman and S.A. Kamil	71
Synthesis of Silicon Nanostructures Using DC-Arc Thermal Plasma: Effect of Ambient	
Hydrogen on Morphology C.M. Tank, V.B. Varma, S.V. Bhoraskar and V.L. Mathe	76
II. Electrical, Magnetic, Optical Properties of Nanomaterials	
Effect of Cobalt Concentration on Bi <sub>0.95</sub> Ba <sub>0.05</sub> Fe <sub>1-x</sub> Co <sub>x</sub> O <sub>3</sub> P.R. Vanga, S. Leelashree and M. Ashok	85
Synthesis, Magnetic and Surface Properties of Reduced Graphene Oxide Supported Nickel Oxide Hybrid Nanomaterials M.J. Ganpath, R. Rajendiran and V. Rengarajan	91
Study of Electronic and Magnetic Properties of Nitrogen Doped Graphene Oxide E. Jayabal, R. Rajendiran and V. Rengarajan	97
Structural and Optical Properties of Nebulized Nickel Oxide Thin Films V. Gowthami, M. Meenakshi, N. Anandhan and C. Sanjeeviraja	103

108
114
118
110
123
128
124
134
140
145
151
158
164
170
1/0
176
182
102
192
199
204
210
210
215

## IV. Bio Nanomaterials and their Applications

Temperature Dependent Electrical Properties of Green Synthesized Silver Nanoparticles- Polyaniline Composite M. Dorairajan, V. Srinivas, V. Raju and G. Raghavan	230
Green Synthesis of Silver Nanoparticles by Haloarchaeon <i>Halococcus salifodinae</i> BK6 P. Srivastava, J. Braganca, S.R. Ramanan and M. Kowshik	236
Physicochemical Studies on Nano Silver Particles Prepared by Green and Chemical Methods V.D. Praveena and K.V. Kumar	242
V. Nanomaterials: Energy & Environment	
Overlithiation of LiNi <sub>0.8</sub> Co <sub>0.2</sub> O <sub>2</sub> for Increased Performance in Li-Ion Batteries H. Rusdi, N. Kamarulzaman, R. Roshidah, K. Elong and A.R. Azilah	253
Photodegradation Studies on Orange G and Acid Blue 113: New Doped Rare Earth Nanometal Oxides as Visible Light Active Photo Catalyst G.A. Suganya Josephine and A. Sivasamy	257
Hydrogen Peroxide Sensor Based on Carbon Nanotubes - Poly(celestine blue) Nanohybrid Modified Electrode	
N.S. Sangeetha and S. Sriman Narayanan  Development of Environmentally Acceptable Nano-Hybrid Coatings for Bio-Fouling  Protection	263
P. Saravanan, D. Duraibabu and S.A. Kumar  Synthesis of PVDF-co-HFP-ZrO <sub>2</sub> Based Composite Polymer Electrolyte for Battery	269
Applications M. Johnsi and S.A. Suthanthiraraj	275
Silver Nanoparticles on Zinc Oxide: An Approach to Plasmonic PV Solar Cell M.K. Hossain, Q.A. Drmosh, F. Al Harabi and N. Tabet	280
Experimental Investigation of Aqueous Cerium Oxide Nanofluid Blend in Diesel Engine S.P. Venkatesan, P.N. Kadiresh and K.S. Kumar	286
Nano Gold Doped Nano TiO <sub>2</sub> – An Efficient Solar Photocatalyst for the Degradation of Persistent Organic Pollutants J. Thomas and K.R. Chitra	292
VI. Nanomaterials: Theoretical and Computational Studies	
System Identification in Modified Diabetic Model for Nanochip Controller N.F.M. binti Mohd Yusof, A.M. Som, A.S. Ibrehem and S.A. Ali	299
<b>Quantum Noise Suppression in Two Dimensional Photonic Crystal Fibers</b> G.M. Latha, M. Sripriya and N. Ramesh	305
Photo-Luminescence Properties of Novel ZnO Nano-Phosphors M.S. Kurrey and B.D. Diwan	311
Silicon Nanowire Embedded Spiral Photonic Crystal Fiber for Soliton-Effect Pulse Compression E. Gunasundari, K. Senthilnathan, S. Sivabalan, K. Nakkeeran and P.R. Babu	316
Influence of Size on Effective Band Gap of Silicon Nano-Wire B.D. Diwan and V.K. Dubey	322