

First International Conference
on
Sustainable Advanced Technologies for Environmental Management (SATEM-2023)
Civil Engineering Department, IEST Shibpur during December 20-22, 2023
Programme Schedule

Day I	20/12/2023
09:30 – 10:30	Registration
10:30 – 11:15	Inauguration
11:15 – 11:30	High Tea
11:30 – 13:00	Key Note Lecture by Prof. Ramesh Goel, University of Utah on Municipal Wastewater Treatment in 21 st Century: Challenges and Innovations
13:00 – 14:15	Lunch Break
14:15 – 15:45	<p><i>Technical Session I: Advanced wastewater treatment technologies</i> <i>Session Chair: Prof. Tari Roychowdhury, Jadavpur University</i> <i>Session Co-Chair: Dr. Sneha Murmu, IEST, Shibpur</i></p> <ol style="list-style-type: none"> 1. Treatability Study of Fish Market Wastewater in a Batch Reactor using Suspended Growth Microbial Culture (Mainak Maiti, Abhisek Roy, Somnath Mukherjee) 2. Comparative Batch Mode Study for Adsorptive Removal of Fluoride from Drinking Water using Treated and Untreated Laterite Soil (Barnali Mandal) 3. Catalytic Photo-persulphate Oxidation of Sulphide (Rutuben Gajeraa, Tabish Nawazb, Anurag Garg) 4. Fabrication of Cellulose Acetate-based Electrospun Nanofiber Membranes and its Application for Ciprofloxacin Removal (Sushma Das, Asok Adak, Ananya Barui) 5. Ameliorated Sewage Treatment by Bacterial and Algal Process with Reduced Carbon Footprint (Nagabalaji Velmurugan, Komathi M., Indrasis Das, Srinivasan S.V.) 6. Adsorption of Fluoride from Wastewater with the Activated Carbon derived from the Coconut Shell (Firdous Ahmad Dar, Akshit Kumar, Muzammil Hussain, Jatin Sotra and Kurella Swamy) 7. Leachate Treatment using Low-Cost Adsorbents: A comparative Study (Potshangbam Janshi Devi, Akanksha Srivastava, Potsangbam Albino Kumar)
15:45 – 16:00	Tea Break
16:00 – 17:45	<p><i>Technical Session II: Advanced water treatment technologies, Management of emerging contaminants, Innovative technologies for measuring environmental pollution, preservation of groundwater and Air pollution</i> <i>Session Chair: Prof. Albino Kumar, NIT Manipur</i> <i>Session Co-Chair: Dr. Saptarshi Kundu, IEST, Shibpur</i></p> <ol style="list-style-type: none"> 1. Assessment of Pesticides Contamination in Surface Water and Development of Nature Based Treatment Technology: A Case Study of Rural Area of West Bengal, India (N. Saha, G. Banerjee, R. Heim, A. Mazumdar) 2. Life Cycle Assessment of a Low-Cost Conventional Building in Rishra, West Bengal: A Case Study (Aritra Majumder, Rohan Das, Anupam Debsarkar and Kaushik Dutta Roy) 3. A Sustainable Approach for Monitoring of Ambient Air Quality Considering Lichen as a Bio-Indicator - A Case Study for Two Major Traffic Intersections of Kolkata (Saptaparni Ghosh Majumdar, Bipasha Dinda Chakraborty, Dr. Anupam Debsarkar, Mrinal Kanti Biswas, Dr. Rita Saha) 4. A novel Technique for Monitoring of Bio-Aerosol in Indoor Air (Abhra Saha and Debabrata Mazumder) 5. Arsenic Removal from Water System by Fe-Cu-HP: Predicted by Doehlert design matrix (Saraswat Dey, Dr. Chanchal Majumder) 6. A study on Adsorption Kinetics and Isotherms of Heavy Metals on Sawdust (Tanmoy Bir Sumit Chowdhury and Dulal Ch. Mukherjee) 7. Effect of Organic Matter on Arsenic Removal: A Comparative Study (Soumya Kanta Ray, Chanchal Majumder) 8. Risk Assessment for Arsenic in Groundwater in the Ganges Delta of West Bengal, India (Dipanwita Das, Asok Adak)

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Day II	21/12/2023
10:00 – 11:30	<p>Technical Session III: Advanced wastewater treatment technologies Session Chair: Dr. Samuel Jacob, SRM Institute of Science and Technology Session Co-Chair: Dr. Deep Roy, IEST, Shibpur</p> <ol style="list-style-type: none"> 1. Batch and Column Adsorption of Hexavalent Chromium on Aquaguard Waste Activated Charcoal (AWAC) (Kapilas Das, Sanjib Moulick, Sanjoy Kumar Maji) 2. Sunlight Assisted Photocatalytic Degradation of Methyl Red using g-C₃N₄ as Metal-free Photocatalyst (Subhalaxmi Sahoo, BhargavaTeja Reddy Guddeti, PrateekshaMahamallik) 3. Treatment of Synthetic Spent Caustic Stream using Electrochemical Persulphate Oxidation followed by Ozonation (Merin Susanna James, Anurag Garg) 4. Earthen Pot Membrane Electrodialysis (EPME) for the Removal of Reactive Red 141 (RR141) dye from Aqueous Solution (Budhodeb Biswas, Chanchal Majumder) 5. Removal Capacity of Lemna Minor as Biosorbent for Removal of Cadmium from Simulated Wastewater in Combination with Ceramic Membrane (Priyankari Bhattacharya, Sachin Mandal, AshisSadhukhan, SkJinnurRahaman, Sathi Banerjee) 6. Anode Modification with Metal Wire Extensions for Application in the Microbial Fuel Cells (SoumyadeepBhaduri and Manaswini Behera) 7. Removal of COD in Leachates through Coagulation and Adsorption using Magnetic Iron Oxide-Activated Nano Adsorbent (Lairenlakpam Helena, Suraj Chingkhmayum, Potsangbam Albino Kumar)
11:30 – 11:45	Tea Break
11:45 – 13:00	Key Note Lecture by Prof. Sharad Gokhale, IIT, Guwahati on Sustainable Technologies to Reduce Particulate Pollution in Indian Scenario
13:00 – 14:15	Lunch Break
14:15 – 15:45	Industry presentation by TATA STEEL and JSW CEMENT
15:45 – 16:00	Tea Break
16:00 – 18:00	<p>Technical Session IV: Solid and hazardous waste management Session Chair: Prof. AsisMazumder Session Co-Chair: Dr. Pritam Saha</p> <ol style="list-style-type: none"> 1. A Sustainable Solid Waste Management of Aloe Vera processing Industry through Biorefinery Approach (Gunasekaran Rajeswari, Samuel Jacob) 2. Utilization of Spent Mushroom Substrate for Biochar Production and its impact on As Accumulation in Rice Grain (DeepanjanMridha, TaritRoychowdhury) 3. A Waste to Wealth Strategy for Industrial Deoiled Rice Bran Residue to produce Bio-xylitol (Ramalingam Kayalvizhi, Samuel Jacob) 4. Fate of Heavy Metals During Hydrothermal Carbonisation of Centrifuge Sewage Sludge and Mitigation of Associated Ecological Risk(Diwakar Kumar Singh, Anurag Garg) 5. Implications of Green Solvents on Delignification and Saccharification of Neem Oil Seed Cake for Sustainable Biorefinery Applications (Sundaram Deepika Bharathi, Samuel Jacob) 6. Characterization of Construction and Demolition Waste through Recycling as Coarse and Fine Aggregate in Kolkata Municipal Corporation(Subhadip Pramanik, DebabrataMazumder) 7. An Eco-benign Seed Treatment Strategy for Rose Hips using Deep Eutectic Solvents (Debshikha Dutta Roy, Samuel Jacob, S P Jeevan Kumar) 8. A study Investigating the Biodegradation Potential of Conventional Plastics by Anaerobic Digestion(Penaganti Praveen, DebabrataMazumder) 9. Comparing Efficiency of Stabilization of Black Cotton Soil Mixed with Fly Ash Using Plastic, Bentonite and Bio-cement(Chandrima Bhadra, Debarghya Sarkar, Sankhadip Rang, Soumyadip Das, Shalini Banerjee, Anit Kumar Das, Supriya Pal)

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Day III	22/12/2023
10:00 – 11:30	<p>Technical Session V: Advanced wastewater treatment technologies Session Chair: Prof. Anupam Deb Sarkar, Jadavpur University Session Co-Chair: Dr. Sujata Biswas, IEST, Shibpur</p> <ol style="list-style-type: none"> 1. Assessment of Water Parameters and Evaluation of Water Quality Index of Loktak Lake (Sudhakar Ningthoujam, Potsangbam Albino Kumar) 2. Methodology for Development of Cost Response Maps for Wastewater Treatment by Membrane Bioreactor (Bhaskar Sengupta, Dr. Abhisek Roy and Dr. Somnath Mukherjee) 3. Investigation on effects of HRT for Leachate Treatment by UASB Reactor (Malvika Thangjam, Koroungamba Laishram, Thiyam Tamphasana Devi, Ankit Dubey Prakashvir) 4. Effect of Anammox Bacteria for Synthetic Wastewater Treatment containing Ammonia and Nitrite (Indrani Chakraborty, Apurba Dey) 5. Adsorptive Capacity of Surface Modified Red-Soil Based AAB for Removal of Anionic Dye (S. Das, B. Mondal, D. Adak, S. P. Swain, S. Shome) 6. Comparative Assessment of Phytoremediation Potentials between Ipomoea Carnea and Ricinus Castor Species for Wastewater Treatment (Sagar M. Gawande, Dilip D. Sarode) 7. Mechanistic insight and Optimal remediation Strategy of Methylene blue using Waste Banana Peel in a Circular Economy Approach (Lohit Paul, Surabhi Chaudhuri)
11:30 – 11:45	Tea Break
11:45 – 13:00	Key Note Lecture by Prof. Brajesh Kr. Dubey, IIT, Kharagpur on Sustainable Strategies and Circular Economy Approaches for Municipal Solid Waste Management
13:00 – 14:15	Lunch Break
14:15 – 15:35	<p>Technical Session VI: Advanced wastewater treatment technologies and Sustainable water quality management Session Chair: Prof. Anirban Gupta, IEST, Shibpur Session Co-Chair: Dr. Ujjwal Saha, IEST, Shibpur</p> <ol style="list-style-type: none"> 1. Water Quality Index in Arsenic Exposed Areas of West Bengal: Sustainability Towards Proactive Management for Future Risk (Sharmistha Majumder, Antara Das, Madhurima Joardar, Tarit Roychowdhury) 2. Defluoridation by Sustainable Utilization of Modified Iron Oxide Nanoparticles from Tea Waste (Urvashi Lama, Shuvankar Halder, Tarit Roychowdhury) 3. Removal of Suspended Solids and COD from a Textile Industry Wastewater using Electrocoagulation and Advanced Oxidation Process (Tamal Kanti Das, Dr. Ashim Kumar Bhattacharya, Dr. Sailendra Nath Mandal) 4. Performance of MBR attached to MBHBR for Suspended Solids Removal in Combined Carbon Oxidation, Nitrification and Denitrification of Wastewater (Tanmoy Bir, Debabrata Mazumder) 5. A study on Biomass Acclimatization for Treatment of Soyabean Oil Containing Wastewater in HUASB-AFMBBR System (Punam Nasrin, Debabrata Mazumder) 6. Water Quality Assessment of Purulia District, West Bengal, India under Changed Climate Scenario (Prasun Mukherjee, Gourab Banerjee, Nilanjan Saha, Asis Mazumdar) 7. Impact of Pollution on Physicochemical Characteristics of Surface Water: Using WQI, GIS and RF Algorithm in Mahanadi River Basin, Odisha (Abhijeet Das)
15:35 – 16:00	Tea Break
16:00 – 16:30	Valedictory