

## Indo-Japan Workshop

### Frontiers in Analytical and Applied Pyrolysis for Energy and Environment (FAAPEE-2024) (Feb. 26-27, 2024)

Venue: A.M.M. Arunachalam Auditorium (Hall 3) & Exhibition Hall, Center for  
Industrial Consultancy & Sponsored Research, IIT Madras

#### Tentative Event Schedule

26-Feb-24	DAY 1	
8.15-9 AM	Registration	
9.00-9.30 AM	Welcome & Inauguration	
	<b>Session 1</b>	<i>Session Chair: Dr. Shogo Kumagai, Tohoku University</i>
9.35-10.15 AM	PLENARY 1	<i>Dr. Thallada Bhaskar, CSIR-IIP Dehradun Analytical Pyrolysis as a Tool for Design of Process / Product for Reductive Catalytic Fractionation</i>
10.15-10.45 AM	Keynote 1	<i>Dr. Akihiro Yoshida, Hirosaki University Pyrolytic Pretreatment of Plastic for Chemical recycling in Petrochemical Plants</i>
10.45-11.15 AM	Keynote 2	<i>Dr. Atsushi Watanabe, Frontier Laboratories Analysis of Microplastics in Airborne Particulate Matter using Pyrolysis-GC/MS</i>
11.15-11.45 AM	Group Photo & Coffee Break	
	<b>Session 2</b>	<i>Session Chair: Dr. Karthikeyan Sathrugnan, Frontier Lab</i>
11.45 AM-12.05 PM	Invited 1	<i>Dr. Abhishek Sharma, Manipal University, Jaipur Integrated Pyrolysis Studies on Agricultural Residues for Sustainable Bio-Oil Production and Refinery Feedstock</i>
12.05-12.25 PM	Invited 2	<i>Dr. Sankar Chakma, IISER Bhopal Discernment of Synergism in Co-pyrolysis with Upgradation, Product Analysis and Engine Performance of Pyrolysis Oil</i>
12.25-12.45 PM	Invited 3	<i>Dr. Bhavya Krishna, CSIR-IIP, Dehradun Analytical Pyrolysis for Lignin Valorisation – Case Study</i>
12.45-1.05 PM	Invited 4	<i>Dr. Rajasekhar Reddy, IIT-ISM Dhanbad Microwave Heating for the Pyrolysis of Plastics and Biomass: Effect of Feedstock/Susceptor Contact and Process Variables</i>
1.05-2.00 PM	LUNCH	
	<b>Session 3</b>	<i>Session Chair: Dr. Abhishek Sharma, Manipal University, Jaipur</i>
2.00-2.40 PM	PLENARY 2	<i>Dr. Guoqing Guan, Hirosaki University Development of Hollow Zeolite Catalysts for Upgrading of Bio-oils</i>
2.40-3.00 PM	Invited 5	<i>Dr. S.V. Srinivasan, CSIR-CLRI, Chennai Energy Generation from Organic Fractions of Municipal Solid Waste through Anaerobic Digestion and Pyrolysis</i>
3.00-3.20 PM	Invited 6	<i>Dr. Srinivas Seethamraju, IIT Bombay</i>

		<i>Catalytic Co-pyrolysis of Biomass and Plastics Using Spent FCC Catalyst</i>
3.20-3.40 PM	Invited 7	<b>Ms. Miranti Budi Kusumawati, Tohoku University</b> <i>Co-pyrolysis of Vacuum Residue and Bio-oil Under Slow and Rapid Heating</i>
3.40-4.00 PM	Invited 8	<b>Dr. Ranjeet Kumar Mishra, Manipal Institute of Technology</b> <i>Thermal and Catalytic Co-pyrolysis of Biomass and Waste Plastics into Value Added Products</i>
4.00-5.00 PM	<b>Poster session over coffee</b>	
5.15-6.30 PM	<b>Visit to Pyrolysis Facility in CSIR-CLRI for Delegates &amp; IITM labs for other participants</b>	
7.00-9.00 PM	<b>Dinner in Dining Hall, IC&amp;SR</b>	
<b>27-Feb-24</b>	<b>DAY 2</b>	
	<b>Session 4</b>	<i>Session Chair: Dr. Guoqing Guan, Hirosaki University</i>
9.00-9.40 AM	PLENARY 3	<b>Dr. Shogo Kumagai, Tohoku University</b> <i>The Potential of Pyrolytic Synergistic Interaction Control through Co-pyrolysis of Plastic, Biomass, and Petroleum</i>
9.40-10.05 AM	Keynote 3	<b>Dr. Kaustubha Mohanty, IIT Guwahati</b> <i>Co-pyrolysis of Biomass and Plastics for Enhancing Fuel Properties: An overview</i>
10.05-10.25 AM	Invited 9	<b>Dr. Meheretu Jaleta Dirbeba, Abo Akademi University, Finland</b> <i>Fast Pyrolysis of Low-grade Biomass Feedstocks: Role of Ash-Forming Matter</i>
10.25-10.45 AM	Invited 10	<b>Dr. Harendra Kumar, Tohoku University</b> <i>Pyrolysates Selectivity in Fast Pyrolysis of Plasticized Waste Wire Harness Cable PVC</i>
10.45-11 AM	Invited 11	<b>Ms. Anusha K., Frontier Lab</b> <i>Py-GCMS use in Reverse Engineering and Failure Analysis of Advanced Polymeric Materials</i>
11.00-11.30 AM	<b>Coffee break, Networking, Posters</b>	
	<b>Session 5</b>	<i>Session Chair: Dr. Thallada Bhaskar, CSIR-IIP Dehradun</i>
11.30-11.55 AM	Keynote 4	<b>Dr. Tooran Khazraie, Valmet R&amp;D, Tampere, Finland</b> <i>The Liquefaction of Sustainable Feedstock to Upgraded Intermediate Products</i>
11.55 AM-12.15 PM	Invited 12	<b>Dr. Himanshu Goyal, IIT Madras</b> <i>First-principle and Machine Learning Models for Thermochemical Conversion of Biomass</i>
12.15-12.35 PM	Invited 13	<b>Mr. A. Suresh, Tata Steel R&amp;D, Jamshedpur</b> <i>Pyrolysis of Coal and Biomass in a Perspective of Steel Industry</i>
12.35-12.55 PM	Invited 14	<b>Dr. Shalini Gautam, IIT-ISM Dhanbad</b> <i>Synthesis of Bio-coke: A Sustainable Solution to Indian Metallurgical Coal Crisis</i>

12.55-1.15 PM	Invited 15	Mr. Sabarish Elango, CEEW, New Delhi <i>Natural Gas Pyrolysis: A Bridge to a Green Hydrogen Economy</i>
1.15-2.15 PM	<b>LUNCH</b>	
2.15-3.45 PM	<b>Session 6</b>	<b>Short Oral Presentation (10 min + 2 min Q&amp;A)</b> <i>Session Chair: Prof. Kaustubha Mohanty, IIT Guwahati</i>
2.15-2.27 PM	Short Oral 1	Mr. Alessandro Ruozi, Doctoral Researcher, Abo Akademi University, Finland <i>Low-temperature Corrosion Caused by Hygroscopic Deposits in Thermal Conversion of Biomass and Waste Streams</i>
2.27-2.40 PM	Short Oral 2	Ms. Janaki Komandur, Doctoral Researcher, IIT Guwahati <i>Co-pyrolysis of Mesua ferrea L and PET Plastic: Insights into Reaction Mechanism</i>
2.40-2.52 PM	Short Oral 3	Mr. Rejeti Venkata Srinadh, Doctoral Researcher, IIT Bhubaneswar <i>Resource-recovery through Microwave-assisted Pyrolysis of Institutional Solid Waste</i>
2.52-3.05 PM	Short Oral 4	Dr. Khulud Alsouleman, IGCS Postdoctoral Researcher, TU Berlin & IIT Madras <i>Effect of ZSM-5 Catalyst on Product Distribution of Pyrolysis of PLA and PBAT/PLA Blend</i>
3.05-3.17 PM	Short Oral 5	Dr. Mozhiarasi Velusamy, IGCS Postdoctoral Researcher, Leibniz University Hannover & IIT Madras <i>An Overview of Pyrolytic Products from Leather Wastes</i>
3.17-3.30 PM	Short Oral 6	Mr. Amrit Anand, Senior Research Fellow, IIT (ISM) Dhanbad <i>Feedstock and Pyrolysis Conditions Affect Suitability of Biochar for Various Sustainable Energy and Environmental Applications</i>
3.30-3.42 PM	Short Oral 7	Mr. Subhan Pal, Doctoral Researcher, IIT Madras <i>Characterization of Commodity Polymers Using Heart-cut (HC)-Evolved Gas Analysis (EGA)-GC-MS and Different Pyrolyzers</i>
	<b>Session 7</b>	<i>Session Chair: Dr. Akihiro Yoshida, Hirosaki University</i>
3.45-4.10 PM	Keynote 5	Dr. R. Vinu, IIT Madras <i>The Importance of Analytical Pyrolysis in Unraveling Fast Pyrolysis Kinetics</i>
4.10-4.30 PM	Invited 16	Dr. Dirk Weichgrebe, Leibniz University Hannover, Germany <i>Scale Effect in Pyrolysis - Problem or Insignificant?</i>
4.30-5.00 PM	<b>Coffee break / Posters / Networking</b>	
5.00-5.20 PM	Invited 17	Dr. Vaishakh Nair, NIT Suratkal, Karnataka <i>Catalytic Microwave-assisted Pyrolysis of Polyethylene in Presence of Lignin-based Biochar</i>
5.20-5.40 PM	Invited 18	Mr. Awosu Emmanuel Ikechukwu, Tohoku University <i>Exploring Low-Temperature Pyrolysis Properties in Tire Rubber</i>
5.40-6.00 PM	Invited 19	Dr. Karthikeyan Sathrugnan, Frontier Lab <i>Determination of Microplastics by Pyrolysis-GCMS</i>
6.00-6.30 PM	<b>Wrap-up, poster awards &amp; closure</b>	

## POSTER SESSION

Poster #	Presenter Name / Poster Title
P1	<b>Mr. Anis Desai, Pandit Deendayal Energy University, Gujrat</b> <i>Microwave Pyrolysis of Biomass using Catalyst for Value-Added Products</i>
P2	<b>Dr. Yuvraj Chauhan, Government Polytechnic, Miraj, Maharashtra</b> <i>Catalytic Pyrolysis of Post-consumer Plastic Waste to Liquid Fuel Using Fabricated Pyrolysis Setup</i>
P3	<b>Dr. Balajii Muthusamy, IIT Madras</b> <i>Exploring the Influence of Alkali and Alkaline Earth Metals on Fast Pyrolysis Kinetics of Biomass: A Curie-point Pyrolysis Study</i>
P4	<b>Mr. Pikesk Kumar, IIT Guwahati</b> <i>Pyrolysis of Lignocellulosic Biomass to Valuable Products and Their Characterization</i>
P5	<b>Mr. Mahendra Tiwari, IIT Madras</b> <i>Kinetic Modelling for High Pressure Pyrolysis of Indo-Finnish Biomass Feedstock Using Distributed Activation Energy Model</i>
P6	<b>Mr. Nayan Chand Dhibar, IIT (ISM) Dhanbad</b> <i>Insight into Thermal behavior, Kinetic, Synergetic effect, and Thermo-dynamic Study for Co-Pyrolysis of Wood Sawdust and Linear Low-Density Polyethylene</i>
P7	<b>Ms. Kritika Pandey, CSIR-Indian Institute of Petroleum and Academy of Scientific and Innovative Research, India</b> <i>Slow Pyrolysis of Geranium for the Production of Bio-oil and Biochar</i>
P8	<b>Mr. Rantidev, IIT (ISM) Dhanbad</b> <i>Microwave-assisted Pyrolysis of Mixed Plastic Waste: Role of Interactions on Yields and Quality</i>
P9	<b>Mr. Gokulnath Ganesan, IIT Madras</b> <i>ReWinT – Recycling Wind Turbine Blades, for a Sustainable Future</i>
P10	<b>Mr. Jayanta Bharati and Mr. Sandeep Sekhar Pradhan, Institute of Chemical Technology-Indian Oil Campus Bhubaneswar, and IIT Kharagpur Extension Centre, Bhubaneswar</b> <i>Bio-fuel Production from Co-pyrolysis of Sugarcane Bagasse, and Waste Plastic</i>
P11	<b>Mr. Santhosh Srinivasan, IIT Madras</b> <i>Valorization of Wood Chips by Microwave Pyrolysis vs Hydrothermal Liquefaction</i>
P12	<b>Dr. Mohit Kumar, IIT Kanpur</b> <i>Conversion of Sugarcane Straw to Solid Fuel through Torrefaction and Hydrothermal Carbonization (HTC): A Comparative Study of Pyrolysis Behaviour, Fuel Characteristics and Applications</i>
P13	<b>Dr. Mariappan Mani, IIT Madras</b> <i>Comprehensive Characterization of Biochar for Safe Storage Stability</i>
P14	<b>Ms. Nishanthi Rajendiran, CSIR-Central Leather Research Institute (CLRI), Chennai</b> <i>Biochar from Pyrolysis of Fibrous MSW and its Application for Improved Biogas Production from Protein-rich Industrial Waste</i>
P15	<b>Mr. Sathish Ganesan, CSIR-Central Leather Research Institute (CLRI), Chennai</b> <i>Pyrolysis of Fibrous MSW- Lab scale and Pilot Scale Studies</i>
P16	<b>Dr. Pritam Kumar, IIT Madras</b>

	<i>Co-pyrolysis of Bagasse, Wood Chips with Rice Husk: Distributed Activation Energy Modeling and Pyrolysate Composition Studies</i>
<b>P17</b>	<b>Ms. Anwesa Sarmah, Manipal Institute of Technology, Manipal</b> <i>Co-pyrolysis of Biomass and Waste Plastic for the Production of Sustainable Fuel and Chemicals – A Review</i>
<b>P18</b>	<b>Ms. Siddhika Ajmera and Ms. Akansha Mohanty, Manipal Institute of Technology, Manipal</b> <i>Thermocatalytic Pyrolysis of Sugarcane Bagasse - a Py-GC-MS and XRF Perspective</i>
<b>P19</b>	<b>Mr. Hari Desai, IIT Madras</b> <i>Economical Recycling of Plastic Waste</i>
<b>P20</b>	<b>Ms. Preety Kumari, IIT Madras</b> <i>Reductive Catalytic Fractionation of Pre-treated Agro-residues into Value-added Chemicals</i>
<b>P21</b>	<b>Mr. V.C. Guruprasaad, IIT Madras</b> <i>Hydrogen Production by Methane Pyrolysis Using Arc Discharge Non-Thermal Plasma</i>
<b>P22</b>	<b>Dr. D Jaya Prasanna Kumar, Ramaiah Institute of Technology, Bengaluru</b> <i>Tailored Properties of Bio char Using Graphene-based Nanomaterials via Pyrolysis</i>
<b>P23</b>	<b>Mr. Abhishek Kumar, IIT Guwahati</b> <i>Co-pyrolysis of Mesua ferrea L. De-oiled Cake and Garlic Husk to Produce Pyrolytic Products</i>
<b>P24</b>	<b>Mr. Shaikh Khizar, IIT Madras</b> <i>Non-catalytic and Catalytic Pyrolysis of Plastic and Plastic Mixtures to Evaluate Resource Recovery Potential</i>
<b>P25</b>	<b>Mr. Balivada Kusum Kumar, IIT Madras</b> <i>Multiscale Modeling of Biomass Fast Pyrolysis in a Fluidized Bed Reactor</i>
<b>P26</b>	<b>Mr. Ajay Mugundan, IIT Madras</b> <i>Microwave-assisted Slow Pyrolysis of Polyethylene Terephthalate with Polypropylene, Polyethylene, and Polystyrene</i>
<b>P27</b>	<b>Mr. Hari Karthik, IIT Madras</b> <i>Preparation of a Biosorbent Derived from Canola Hull by Slow Pyrolysis for Effective Carbon Dioxide Adsorption</i>
<b>P28</b>	<b>Mr. Vallabh S. Prabhudesai, IIT Madras</b> <i>Hydrodeoxygenation of Mixtures of Biomass-derived Model Compound Oxygenates Over Bifunctional Catalysts</i>
<b>P29</b>	<b>Ms. Janaki Komandur, IIT Guwahati</b> <i>Co-pyrolysis of Mesua ferrea L and PET Plastic: Insights into Reaction Mechanism</i>
<b>P30</b>	<b>Mr. Rejeti Venkata Srinadh, IIT Bhubaneswar</b> <i>Resource-recovery through Microwave-assisted Pyrolysis of Institutional Solid Waste</i>
<b>P31</b>	<b>Mr. Amrit Anand, IIT (ISM) Dhanbad</b> <i>Feedstock and Pyrolysis Conditions Affect Suitability of Biochar for Various Sustainable Energy and Environmental Applications</i>
<b>P32</b>	<b>Mr. Subhan Pal, IIT Madras</b> <i>Characterization of Commodity Polymers Using Heart-cut (HC)-Evolved Gas Analysis (EGA)-GC-MS and Different Pyrolyzers</i>