

MP Symposium  
**2025**  
18-19 September

# Symposium on Microplastics in the Environment and Water: Challenges, Research, and Mitigation Strategies

National University of Singapore, Singapore

## Program Summary

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## Programme Overview

Time	<b>Day 1</b> <b>18 September 2025 (Thursday)</b> <b>Venue: Lavender, National University of Singapore Shaw Foundation Alumni House (SFAH)</b>
08:30 - 09:00	Registration
09:00 - 09:10	Welcome and Opening Remarks
09:10 - 10:10	Keynote Talks
10:10 - 10:20	Photo taking
10:20 - 10:50	Break
10:50 - 12:10	Session 1: Fate and Behaviour of Microplastics
12:10 - 13:00	Lunch & Exhibition Viewing
13:00 - 14:00	Poster Presentation
14:00 - 14:50	Session 2: Health and Ecological Impact of Microplastics
14:50 - 15:25	Session 3: Strategies and Practices in Managing Microplastics Pollution
15:25 - 15:55	Break
15:55 - 17:30	Session 4: Advancement on Analytical Methods
18:30 - 20:00	Dinner: The Royals Bistro @ NUS

Time	<b>Day 2</b> <b>19 September 2025 (Friday)</b> <b>Venue: Clove and Lemongrass, National University of Singapore Shaw Foundation Alumni House (SFAH)</b>
09:00 - 09:30	Keynote
09:30 - 10:20	Session 5: Plastics Recycling and Upcycling
10:20 - 10:50	Break
10:50 - 12:25	Session 6: Microplastics Removal Technologies
12:25 - 13:30	Lunch & Exhibition Viewing
13:30 - 14:30	Poster Presentation
14:30 - 15:35	Session 7: Microplastics Measurement in Environment and Water
15:35 - 16:00	Break
16:00 - 17:50	Equipment Demonstration
17:50 - 18:00	Poster Award Ceremony and Closing Ceremony

## Programme Details

18 September 2025, Thursday

**08:30 - 09:00    Registration**

**09:00 - 09:10    Welcome and opening remarks**

**09:10 - 10:10    Keynotes**

**Session Chair:** *Prof. Jiangyong Hu, NUS, Singapore*

**Microplastics in Laundry Detergents and Softeners Commercially Available in Korea**

*Prof. Hyunook Kim, University of Seoul, Korea*

**The Atlas of Ocean Microplastics (AOMI) database and its application**

*Prof. Atsuhiko Isobe, Kyushu University, Japan*

**10:10 - 10:20    Photo taking**

**10:20 - 10:50    Break**

**10:50 – 12:10    Session 1: Fate and Behaviour of Microplastics**

**Session Chair:** *A/Prof. Sabiqah T. Anuar, Universiti Malaysia Terengganu, Malaysia*

**Microplastics in Tropical River Systems: Distribution, Risk Assessment, and Potential Role as Pollutant Vectors (Invited talk)**  
[\(MP2025-1072\)](#)

*A/Prof. Sabiqah T. Anuar, Universiti Malaysia Terengganu, Malaysia*

**Near-range and Long-range Sources of Airborne Plastic in PM2.5: Deciphered by Investigating Urban Atmosphere Affected by COVID-19 Pandemic** [\(MP2025-1046\)](#)

*Dr. Xiaorui Wu, NUS, Singapore*

**Microplastics Abundance in the Archipelagic Waters of the Philippines: Spatial, Temporal, and Sampling Variations and Associations with Geographic, Economic, and Macroplastic Factors** [\(MP2025-1054\)](#)

*Mr. Christian Mark Guyo, University of the Philippines Diliman; Benguet State University, Philippines*

**Surface Acidity of Biodegradable Microplastics and its Implication on Pb (II) Adsorption via Surface Complexation** [\(MP2025-1053\)](#)

*Asst. Prof. Jui-Yen Lin, National Kaohsiung University of Science and Technology, Chinese Taiwan*

**Microplastic Abundance and Interaction with Potentially Toxic Elements in Groundwater: A Study from Northeast India's Brahmaputra River Basin (MP2025-1039)**

*Ms. Ankita Saha, Tezpur University, India*

**12:10 - 13:00 Lunch & Exhibition Viewing**

**13:00 - 14:00 Poster Presentation**

**Session Chairs:** *Dr. Meibo He, NUS, Singapore/ Asst. Prof. Jui-Yen Lin, National Kaohsiung University of Science and Technology, Chinese Taiwan*

**14:00 – 14:50 Session 2: Health and Ecological Impact of Microplastics**

**Session Chair:** *Prof. Sung Woo Bae, Korea University, Korea*

**Unraveling the Time-Dependent Ecotoxicity of Microplastics in Zebrafish: A Comparative Study of Acute vs. Chronic Exposure on Metabolome and Gut Microbiome Disruption (Invited talk)**

**(MP2025-1069)**

*Prof. Sung Woo Bae, Korea University, Korea*

**Longitudinal Assessment of Microplastic-Induced Toxicity in Zebrafish: Insights from Label-Free Hyperspectral SRS Imaging of Bioaccumulation and Lipid Metabolism Disruptions (MP2025-1004)**

*Mr. Le Xin, NUS, Singapore*

**Higher Retention of Microplastic in Colorectal Cancer Tissues (MP2025-1073)**

*A/Prof. Yusof Shuaib Ibrahim, Universiti Malaysia Terengganu, Malaysia*

**14:50 - 15:25 Session 3: Strategies and Practices in Managing Microplastics Pollution**

**Session Chair:** *Dr. Lai Yoke Lee, NUS, Singapore*

**Regional Database to Inform Policy Making on Marine Plastic Pollution in ASEAN+3 (Invited talk) (MP2025-1074)**

*Dr. Mei Lin Neo, NUS, Singapore*

**Plastic Waste in Bangladesh: Challenges, Community Perceptions, and the Path toward a Circular Economy (MP2025-1010)**

*Dr. Asef Mohammad Redwan, North South University, Bangladesh*

**15:25 – 15:55 Break**

**15:55 - 17:30      Session 4: Advancement on Analytical Methods**

**Session Chairs:** *Dr. Karthikeyan Sathrugnan, Frontier Laboratories, Singapore/Prof. Atsuhiko Isobe, Kyushu University, Japan*

**Development of New Calibration Standards for Trace and Ultra-Trace Levels of Microplastics Quantification by Py-GCMS (Invited talk) (MP2025-1061)**

*Dr. Karthikeyan Sathrugnan, Frontier Laboratories, Singapore*

**Advanced Microplastic and Polymer Analysis with JEOL Mass Spectrometers and Automated Software Solutions (Invited talk) (MP2025-1019)**

*Dr. Ploypat Niyomploy, JEOL ASIA Pte Ltd, Singapore*

**FTIR and Raman Solutions to Analyse Microplastics from  $\mu\text{m}$  to mm Sizes (Invited talk) (MP2025-1065)**

*Dr. Rui Wang, Thermo Fisher Scientific, Singapore*

**Development of a Comprehensive Characterization Approach for Nano-Microplastics in Water Samples (MP2025-1032)**

*Dr. Liya Ge, Nanyang Technological University (NTU), Singapore*

**Surface-Enhanced Raman Spectroscopy for Size-Resolved Microplastic Detection Thiophenol Labelling (MP2025-1034)**

*Asst. Prof. Rajapandiyam Panneerselvam, SRM University AP, India*

**18:30 - 20:00      Dinner**

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## 19 September 2025, Friday

**09:00 - 09:30**     **Keynote**

**Session Chair:** *Prof. Hyunook Kim, University of Seoul, Korea*

**Using <sup>14</sup>C-tracer to Study the Degradation of Polystyrene**

*Prof. Rong Ji, Nanjing University, China*

**09:30 - 10:20**

**Session 5: Plastics Recycling and Upcycling**

**Session Chair:** *A/Prof. Raymond Ong, NUS, Singapore*

**Co-pyrolysis of Plastics, Biomass, and Petroleum: Potential of Pyrolytic Synergistic Interactions (Invited talk) (MP2025-1045)**

*A/Prof. Shogo Kumagai, Tohoku University, Japan*

**Environmental Assessment of Recycling Waste Plastic in Asphalt Pavement: from Macro to Micro Perspectives (MP2025-1057)**

*Dr. Meibo He, NUS, Singapore*

**Microplastics in the Paper Sludge and Chemical Recycling via Fast Pyrolysis (MP2025-1076)**

*Prof. Songbo He, Dalian Institute of Chemical Physics, Chinese Academy of Sciences, China*

**10:20 – 10:50**

**Break**

**10:50 - 12:25**

**Session 6: Microplastics Removal Technologies**

**Session Chairs:** *A/Prof. Jenyuk Lohwacharin, Chulalongkorn University, Thailand/Prof. Rong Ji, Nanjing University, China*

**Removal of Microplastics from Water: Impacts of Aging and Biofilm (Invited talk) (MP2025-1060)**

*A/Prof. Jenyuk Lohwacharin, Chulalongkorn University, Thailand*

**Eco-Friendly Surface Modification of Magnetite Nanoparticles using Soapnut (*Sapindus Mukorossi*) for Efficient Magnetic Removal of Microplastics from Estuarine Water and Sediments (MP2025-1013)**

*A/Prof. Mahenthiran Sathiyamoorthy, Vellore Institute of Technology, India*

**Revisiting Microplastic Removal and Release by Point-of-Use Ultrafiltration Membranes: 1-year Monitoring and Interpretable Machine Learning (MP2025-1011)**

*Mr. Thitiwut Maliwan, NUS, Singapore*

**Polystyrene Microplastic Degradation by a Dual-Function Novel PGPR *Bacillus spizizenii*: A Microbioremediation Perspective (MP2025-1018)**

*Ms. Riya Chandel, Himachal Pradesh University, India*

**Insights on the Fate and Removal of Microplastics in Wastewater Treatment Plants: Unveiling the Impact of Textile Industry (MP2025-1022)**

*A/Prof. Riccardo Gori, University of Florence, Italy*

**Sustainable Technologies for Remediation of Nanoplastics from Drinking Water and Wastewaters (MP2025-1043)**

*A/Prof. Gopala Krishna Darbha, Indian Institute of Science Education and Research Kolkata, India*

**12:25 - 13:30 Lunch & Exhibition Viewing**

**13:30 - 14:30 Poster Presentation**

**Session Chairs:** *Dr. Meibo He, NUS, Singapore/ Asst. Prof. Jui-Yen Lin, National Kaohsiung University of Science and Technology, Chinese Taiwan*

**14:30 - 15:35 Session 7: Microplastics Measurement in Environment and Water**  
**Session Chair:** *A/Prof. Liya Yu, NUS, Singapore*

**Agilent's Workflow Solutions for Non-Targeted and Targeted Microplastics Analyses (Invited talk) (MP2025-1071)**

*Mr. Steven Pang, Agilent Technologies, Singapore*

**Microplastics and Nanoplastics Monitoring in Water and Food: Analytical Advances to Support Risk Assessment (MP2025-1029)**

*Dr. Haiyan Li, Singapore Food Agency (SFA), Singapore*

**Physicochemical Characterization and Abundance of Microplastics in Hong Kong's Rivers (MP2025-1028)**

*Dr. Yuen Wa Ho, The Hong Kong Polytechnic University, China*

**Trait Analysis as a Forensic Tool for Tracing Plastic Pellet Pollution (MP2025-1075)**

*Dr. Suresh Kumar Ashwini, NUS, Singapore*

**15:35 - 16:00 Break**

**16:00 - 17:50 Equipment Demonstration**

**Session Chair:** *Ms. Yanfang Xu, NUS, Singapore*

**17:50 - 18:00 Poster Award Ceremony and Closing Ceremony**



## Poster Presentation List

18 September 2025, Thursday

### Topic: Plastics Recycling and Upcycling

#### MP2025-1050

##### **A practice of Circular Economy: Incorporating Plastic Wastes in Road Construction**

*Ms. Sin Ee Fong, NUS, Singapore*

### Topic: Fate & Behavior of Microplastics

#### MP2025-1003

##### **Investigating Microplastic Accumulation and Trophic Transfer in Aquatic Food Webs**

*Mr. Md Solaiman Hossain, Chulalongkorn University, Thailand*

#### MP2025-1006

##### **Tire Wear Particle Interactions with Water Treatment Residuals in Stormwater Treatment Process**

*Mr. Jiahua Wu, NUS (Suzhou) Research Institute (NUSRI-SZ), China*

#### MP2025-1007

##### **Assessing Settling Velocity of Biofilm-Encrusted Microplastics: Accounting for Biofilm as an Equivalent to Surface Roughness**

*Dr. Daizong Meng, NUS, Singapore*

#### MP2025-1012

##### **Microplastics as Vectors for Organic Pollutants: Biofilm-Mediated Biodegradation and Co-Contamination Dynamics in Marine Ecosystems**

*Dr. Mukhtiar Ali, NUS (Suzhou) Research Institute, China*

#### MP2025-1016

##### **Fate and Fallout: Environmental Transformation and Impact of Surgical Masks in Simulated Ecosystem**

*Ms. Abisha Christy Christudoss, Vellore Institute of Technology, India*

#### MP2025-1040

##### **Microplastics Contamination and Ecological Risks in Water and Sediment of Deeporbeel, a Ramsar Site in Assam, India**

*Mr. Kundil Kumar Saikia, Tezpur University, India*



**MP2025-1041**

**Unveiling the Influence of UV-Induced Aging on the Adsorption Behavior of PET and PP Microplastics Toward Lead in Aquatic Environments**

*Mr. Vijaykumar Sekar, National Institute of Technology Andhra Pradesh, India*

**MP2025-1077**

**Release and Fate of Microplastic Fibres from Disposable Surgical Face Masks in Aqueous Medium: the Effect of Physio-chemical Factors and Shear Forces**

*Mr. Soupam Das, Vellore Institute of Technology, India*

**MP2025-1079**

**Assessing Accumulation Hotspots of Plastic Resin Pellets along Johor Straits in Singapore**

*Ms. Shermaine Teo, Resorts World Sentosa, Singapore Oceanarium, Singapore*

**Topic: Health and Ecological Impact of Microplastics**

**MP2025-1015**

**Co-Exposure to Polyester Fibre Microplastics and Oxytetracycline Disrupts Neurochemical and Fatty Acid Homeostasis in Zebrafish: A Multi-Omics Study**

*Mr. Li Mingcan, NUS, Singapore*

**MP2025-1017**

**Profiling of Raw 264.7 Macrophage Exposure to Aged and Newly Procured Polypropylene Microplastics**

*Ms. Shramana Koner, Vellore Institute of Technology, Vellore, India*

**MP2025-1021**

**Microplastics Induce Ecosystem-wide Impacts on Coral Reefs: Insights from Modelling**

*Ms Lei Xin Yong, NUS, Singapore*

**MP2025-1027**

**Microplastic Concentrations in Cetaceans Worldwide: A Scoping Review of Ocean Health Sentinels**

*Mr. Christian Mark Guyo, University of the Philippines Diliman; Benguet State University Philippines*

**MP2025-1036**

**First Mass-Based Quantification of Inhalable Microplastics and Associated Hidden Health Risks in India**

*Mr. Abhishek Biswas, Indian Institute of Science Education and Research (IISER), India*

**MP2025-1052**

**Tracing Nanoplastics Accumulation in *Chlorella vulgaris*: Insight into heterogenous association and mechanistic uptake**

*Mr. Rega Permana, University of Birmingham, United Kingdom*

19 September 2025, Friday

**Topic: Microplastics Removal Technologies**

**MP2025-1002**

**Advanced Dielectrophoretic Filters for Efficient Microplastic Removal from Industrial Wastewater**

*Ms. Laleh Abdollahzadeh, University of New South Wales, Australia*

**MP2025-1005**

**Analysis and Design of Adsorption-Aided Flocculation Tank for the Removal of Microplastics from River Cooum and Adyar in Chennai**

*Mr. Shobhit Kedia, National University of Singapore, Singapore*

**MP2025-1008**

**Assessing Phytotoxicity of Microplastic-contaminated Water in *Ludwigia octovalvis*: Potential for Phytoremediation**

*Dr. Islam Elhail, Universiti Kebangsaan Malaysia, Malaysia*

**MP2025-1026**

**Phytoremediation and Policy Frameworks: A Holistic Approach to Microplastic Pollution in Landfill Leachate**

*Ms. Radhiatul Atiqah Ramli Shah, Universiti Kebangsaan Malaysia, Malaysia*

**MP2025-1066**

**Enhanced Degradation of Microplastics Using PMS-UV Systems**

*Mr. Raju Meganathan, National Institute of Technology, Tiruchirappalli, India*

**Topic: Microplastics Measurement in Environment and Water**

**MP2025-1009**

**Baseline Assessment of Microplastics in Malaysia: SOPs for Sampling and Analysis in Riverine Ecosystems**

*Ms. Nor Salmi Abdullah, National Water Research Institute of Malaysia (NAHRIM), Malaysia*

**MP2025-1023**

**Optimization of Pre-treatment Protocols for Micro- and Nanoplastics Detection in Human Keratinous and Blood Tissue Samples Using Analytical Py-GC/MS**

*Ms. Charushree S., Indian Institute of Technology Madras, India*

**MP2025-1030**

**Pathway-specific Microplastic Dynamics in an Urban Lake: Insights on How Continuous Rainfall Shapes Pollution Patterns.**

*Mr. Mozim Shafi, Indian Institute of Technology Kharagpur, India*

**MP2025-1033**

**Detection of Microplastics from our Daily Used Cosmetics and its Impact on Gut Microbiota *Artemia Salina***

*Ms. Guria Saha, Vellore Institute of Technology, India*

**MP2025-1035**

**Prevalence of Microplastics in Commercially Available Edible Finfish and Shellfish Species in the Southern Region of India**

*Mr. Saoo Wan Emi Phyllei, Pondicherry University, India*

**MP2025-1037**

**Microplastic and Phthalate Ester Pollution in Tropical Lentic Freshwater Sediments**

*Mr. Kyle Weston, NUS, Singapore*

**MP2025-1044**

**Microbubble-driven SERS Approach for Nanoplastics Analysis in Aquatic Environments**

*Ms. Megha Sunil, Manipal Academy of Higher Education, India*

**MP2025-1049**

**Microplastics Detection in Environmental Samples from a Commercial Laboratory Perspective**

*Dr. Teen Teen Chin, ALS Technichem (M) Sdn. Bhd., Malaysia*

**MP2025-1051**

**Spatial Distribution of Microplastic Pollution in Juwana River, Central Java, Indonesia: An Analysis of Correlations with Water Pollution Index**

*Dr. Prieskarinda Lestari, Universitas Gadjah Mada, Indonesia*

**MP2025-1055**

**Spatial and Temporal Patterns of Microplastic Distribution in Constructed Wetlands: Quantifying Abundance and Occurrence in the West of Melbourne**

*Ms. Vivienne Rhea Padura, Victoria University, Australia*

**MP2025-1056**

**Analyzing Microplastic-Environment Associations in Western Luzon, Philippines: Data-Driven Insights from Ecological Structures, Resemblance, and Gradients**

*Mr. Erish Daranciang, University of the Philippines Diliman, Philippines*

**MP2025-1058**

**Quantifying Microplastic Pollution in the Downstream Cauvery River, India Using Nile Tilapia (*Oreochromis Niloticus*) and Freshwater Samples**

*Ms. Suvalakshmi Ananthan, National Institute of Technology Puducherry, India*

**MP2025-1059**

**A Microfluidic Platform with Sessile Microdroplets for Detection of Microplastics in Flowing Water**

*Asst. Prof. Jijo Lukose, Manipal Academy of Higher Education, India*

**MP2025-1067**

**Microplastic Pollution Assessment in Surface Water, Sediments, and Fish of River Ravi, Punjab, Pakistan**

*Dr. Mehmood Aslam, Nankai University, China*

**MP2025-1078**

**Quantification of Microplastics in Wet Wipes from Multiple Brands Using Micro-FTIR and IR Imaging**

*Dr. Umid Man Joshi, SGS Testing & Control Services Pte Ltd, Singapore*