



## Program

### Sunday, 6 November, 2022

From 14.00	Arrival – registration and check in
16.00 – 17.00	<i>Welcome drink</i>
17.00 – 17.15	Welcome by the Organizers
17.15 – 17.45	<b>Wendel Wohlleben, BASF, Germany</b> TBA
17.45 – 18.15	<b>Chelsea Rochman, University of Toronto, Canada</b> The multi-dimensionality of microplastics – and how it affects their fate and effects in aquatic ecosystems
18.15 – 18.45	<b>Alke Fink, University of Fribourg/Adolphe Merkle Institute, Switzerland</b> Discussing the potential impact of micro- and nanoplastics on human health
19.00	<i>Dinner</i>

## Monday, 7 November, 2022

- 8.30 – 8.45 Welcome address by CSF
- 8.45 – 9.15 **Bart Koelmans**, *Wageningen University & Research, The Netherlands*  
Dealing with the complexity of microplastic in risk assessment

### Session 1: Plastics sources and monitoring

- 9.15 – 9.35 **Richard Cross**, *UKCEH, UK*  
Challenges in the quantification of microplastics in the environment
- 9.35 – 9.55 **Anna Bogush**, *Coventry University, UK*  
COVID-19 disposable face masks: source of microplastics and chemical additives in the environment
- 10.00 – 10.40 *Coffee break*
- 10.40 – 11.00 **Shaun Forrest**, *Carleton University, Canada*  
Microplastic concentration varies with local and landscape scale factors in a large Canadian watershed
- 11.00 – 11.20 **Camilla Capelli**, *Institute of Earth Sciences, SUPSI, Switzerland*  
Life on microplastics in a Swiss eutrophic lake (Lake Lugano)
- 11.20 – 11.40 **Martin Knoll**, *University of the South, USA*  
Detection of microplastics in bottom waters of the Tennessee and Cumberland Rivers and their tributaries in Tennessee, USA
- 11.40 – 12.00 **Jorge Gonzalez-Estrella**, *Oklahoma State University, USA*  
Open dumping and burning of solid waste in underserved communities: an overlooked source of microplastics in terrestrial ecosystems
- 12.00 – 12.20 **TBA**, *TBA*
- 12.30 – 14.00 *Lunch*
- 14.00 – 16.00 Poster session
- 16.00 – 16.30 *Coffee break*

### Session 2: Modeling plastics transport in the environment

- 16.30 – 17.00 **Bernd Nowack**, *Empa, Swiss Federal Laboratories for Materials Science and Technology, Switzerland*  
Modeling the flows and releases of micro- and macroplastics to the environment
- 17.00 – 17.20 **Gert Everaert**, *Flanders Marine Institute, Belgium*  
Lowland rivers as sinks for plastic? A model-based case study relying on in situ observations for the Scheldt estuary in Belgium
- 17.20 – 17.40 **Elke Brandes**, *Johann Heinrich von Thünen Institute, Germany*  
MOMENTUM – a model network to quantify microplastic sources and migration pathways throughout a river catchment

- 17.40 – 18.00 **Merel Kooi**, *Wageningen University & Research, The Netherlands*  
Fate, exposure, and risk assessment for microplastics in rivers on a national scale
- 18.00 – 18.20 **Fan Liu**, *Aalborg University, Denmark*  
From land to ocean: national-scale hydrological source tracking of microplastics in Danish coastal environment
- 18.00 – 18.40 **David Mennekes**, *Empa, Swiss Federal Laboratories for Materials Science and Technology, Switzerland*  
Modelling plastic transport and accumulation in the environment on a country-wide scale
- 18.40 – 19.00 **Anna Schwarz**, *Netherlands Organization for Applied Scientific Research (TNO), The Netherlands*  
A modelling approach for accumulation of plastics in the environment on a global scale
- 19.00 *Dinner*

## Tuesday, 8 November, 2022

### Session 3: Plastics in the aqueous environment: measurements, fate processes and impacts

- 8.30 – 9.00 **Kryss Waldschlager**, *Wageningen University & Research, The Netherlands*  
You can't manage what you can't measure: from microplastic transport to representative monitoring
- 9.00 – 9.20 **Christel Hassler**, *University of Lausanne, Switzerland*  
Spectral flow cytometry, a new technique to identify and quantify small-scaled microplastics in natural waters
- 9.20 – 9.40 **Tuomo Soininen**, *University of Eastern Finland, Finland*  
Microplastics in the ice cover of a northern freshwater lake – a three-year monitoring
- 9.40 – 10.00 **Alice Pradel**, *ETH Zurich, Switzerland*  
Plastic particles in Arctic sea ice: pollution burdens in a changing climate
- 10.00 – 10.50 *Coffee break*
- 10.50 – 11.10 **Simone Lechthaler**, *RTWH Aachen University, Germany*  
Microplastics and their environmental impact – tire wear particles in surface runoff from highly frequented roads
- 11.10 – 11.30 **Johanna Schmidtman**, *University of Bayreuth, Germany*  
Heteroaggregation of PS microplastic with ferrihydrite leads to rapid removal of microplastic particles from the water column
- 11.30 – 11.50 **Chayanika Rathore**, *CSIR- National Institute of Oceanography, India*  
Sewage wastewater as a land based source of microplastics to aquatic ecosystems- A case study in west coast of India
- 11.50 – 12.30 Poster pitches
- 12.30 – 14.00 *Lunch*
- 14.00 – 16.00 Speed dating
- 16.00 – 16.30 *Coffee break*

### Session 4: plastics in terrestrial ecosystems

- 16.30 – 17.00 **Matthias Rillig**, *Free University Berlin, Germany*  
Microplastic effects on soil
- 17.00 – 17.20 **Gabin Colombini**, *Sorbonne University, France*  
Microplastic pollution in long-term urban compost amended soils
- 17.20 – 17.40 **Peter Fiener**, *University Augsburg, Germany*  
Soil erosion a major source of microplastic entering inland waters?
- 17.40 – 18.00 **Alexandra Foetisch**, *University of Bern, Switzerland*  
High resolution investigation of plastic aging in soil using scanning transmission x-ray microscopy (STXM)
- 18.00 – 18.20 **Andreas Cramer**, *ETH Zurich, Switzerland*  
Microplastic water repellency reduced by ferrihydrite coating

18.00 – 18.40	<b>Jonathan Nunez</b> , <i>ETH-Zurich, Switzerland</i> Microplastics effects on soil porosity, oxygen distribution and greenhouse gas emissions
18.40 – 19.00	<b>Thilo Hofmann</b> , <i>University of Vienna, Austria</i> Do microplastics and nanoplastics enhance contaminant mobility in soils?
19.00	<i>Dinner</i>

## Wednesday, 9 November, 2022

### Session 5: Plastics analytics: challenges and solutions to measure particles and polymers

- 8.30 – 9.00 **Ulrike Braun**, *German Environmental Agency, Germany*  
Harmonization of microplastic analysis
- 9.00 – 9.20 **Thomas D. Bucheli**, *Agroscope, Switzerland*  
Quality assurance and quality control in microplastic analysis in complex matrices: concepts, examples and recommendations
- 9.20 – 9.40 **Gabriella Schirinzi**, *European Commission, Joint Research Centre (JRC), Italy*  
Aged nanoplastics for laboratory testing
- 9.40 – 10.00 **Jan Schaefer**, *Institute for Plasma Science and Technology, Germany*  
High-resolution microscopy and infrared spectroscopy of polystyrene nanoparticles
- 10.00 – 10.30 *Coffee break*
- 10.30 – 10.50 **Cloé Veclin**, *University of Amsterdam, The Netherlands*  
Development of an online preconcentration method for nanoplastics analysis in environmental samples using representative standards of controlled size, shape, and composition by AF4-MALS
- 10.50 – 11.10 **Sijia Gao**, *University of Freiburg, Germany*  
Instrument development for automated water-sampling and microplastics composition analysis
- 11.10 – 11.30 **Andreas Kerstan**, *Agilent Technologies, Germany*  
The QCL based LDIR 8700 Imaging System for the Rapid and Automated Analysis of Microplastics in various matrices
- 11.30 – 11.50 **Débora Sorolla Rosario**, *University of Alicante, Spain*  
Improved chlorinated microplastics detection using a solid phase sorbent and Thermoextraction-desorption coupled with gas chromatography/mass spectrometry (TED-GC-MS)
- 11.50 – 12.10 **Elena Höppener**, *Netherlands Organization for Applied Scientific Research (TNO), The Netherlands*  
Classification of (micro)plastics using cathodoluminescence and machine learning; possible application for nanoplastics?
- 12.10 – 12.30 **Aurelia Liechtenstein**, *Purency GmbH, Austria*  
Machine learning automated data analysis of microplastics measurements and its implications on advancing microplastics analysis to routine analysis
- 12.30 – 14.00 *Lunch*
- From 14.00 Excursion and conference dinner

## Thursday, 10 November, 2022

### Session 6: (micro)plastics interactions with biota

- 8.30 – 9.00 **Bethanie Carney Almroth**, *University of Gothenburg, Sweden*  
TBA
- 9.00 – 9.20 **William Dufefoi**, *EAWAG, Switzerland*  
Investigating tire tread particle toxicity to fish using Rainbow Trout cell lines
- 9.20 – 9.40 **Thibault Masset**, *EPFL, Switzerland*  
Bioaccessibility, bioaccumulation and effects of tire-associated chemicals for aquatic and soil-dwelling organisms
- 9.40 – 10.00 **Alan Bergmann**, *Ecotox Centre, Switzerland*  
Genotoxic and estrogenic effects of cryo-milled tire tread particles detected with high performance thin-layer chromatography (HPTLC) bioassays
- 10.00 – 10.50 *Coffee break*
- 10.50 – 11.10 **Christina Maria Wolff**, *Leibniz Institute for Plasma Science and Technology, Germany*  
The effect of microplastic particles on cells of the adaptive and innate immune system
- 11.10 – 11.30 **Maria Hayder**, *University of Amsterdam, The Netherlands*  
What if you eat nanoplastic? Simulation of gastrointestinal digestion of biodegradable vs polystyrene nanoplastics and their interactions with food components
- 11.30 – 11.50 **Stephanie Andrews**, *University of Exeter, UK*  
Can the invasive Zebra mussel (*Dreissena polymorpha*) be used as a biological indicator of microplastic contamination in the River Thames ecosystem?
- 11.50 – 12.30 Poster pitches
- 12.30 – 14.00 *Lunch*
- 14.00 – 16.00 Poster session
- 16.00 – 16.50 *Coffee break*

### Session 7: Changes to plastics: degradation and corona formation

- 16.50 – 17.20 **Claus Svedsen**, *UK Centre for Ecology and Hydrology, UK*  
TBA
- 17.20 – 17.40 **Monica Passananti**, *University of Helsinki, Finland*  
Study on nanoplastic degradation under environmental-like conditions
- 17.40 – 18.00 **Nora Meides**, *University of Bayreuth, Germany*  
Pathways to micro- and nanoplastic: results from accelerated weathering studies

- 18.00 – 18.20 **Sam Harrison**, *UK Centre for Ecology & Hydrology, UK*  
Advancing our understanding of plastic fragmentation in the environment through a mechanistic model of micro- and nanoplastic fragmentation
- 18.00 – 18.40 **Nicholas Mckitterick**, *Leibniz Institute for Plasma Science and Technology, Germany*  
Investigating Protein Corona composition in different environmentally relevant plastic particles
- 18.40 – 19.00 **Mehdi Ravandeh**, *Leibniz Institute for Plasma Science and Technology, Germany*  
Protein corona formation and characterization of environmentally relevant microplastics generated by sonication
- 19.00 *Dinner*



## Friday, 11 November, 2022

### Session 8: Innovation vs. Risk: approaches to understand plastic use and reduce exposure

8.30 – 9.00	<b>Sabine Pahl</b> , <i>University of Vienna, Austria</i> TBA
9.00 – 9.20	<b>Charlotte Henkel</b> , <i>University of Vienna, Austria</i> Polyvinyl chloride microplastics leach phthalates to the aquatic environment over decades
9.20 – 9.40	<b>Mark Wiesner</b> , <i>Duke University, USA</i> Modeling additive release from fragmenting plastics
9.40 – 10.00	<b>Thorsten Hüffer</b> , <i>University of Vienna, Austria</i> Tire materials in agricultural soils – From additives release to plant uptake
10.00 – 10.30	<i>Coffee break</i>
10.30 – 10.50	<b>Michael Sander</b> , <i>ETH Zurich, Switzerland</i> Biodegradation dynamics of biodegradable mulch foils in agricultural soils: analytical advancements and comparative analysis across incubation scales
10.50 – 11.10	<b>Nicolas Beriot</b> , <i>Wageningen University and research, Netherlands</i> Plastic mulch and pesticides residues effects on the lettuce growth
11.10 – 11.30	<b>Denise Mitrano</b> , <i>ETH Zurich, Switzerland</i> Assessment of drinking water treatment processes in nanoplastics removal: laboratory-scale, pilot- scale and modelling studies
11.30 – 11.50	<b>Lisa Zimmermann</b> , <i>Food Packaging Forum Foundation, Switzerland</i> Micro- and nanoplastics from intended use of food packaging
11.50 – 12.10	<b>Claudia Cella</b> , <i>European Commission, Joint Research Centre (JRC), Italy</i> Secondary nanoplastics released from food packaging: quantification and formation mechanisms
12.10 – 12.30	Wrap up and closing remarks by the Organizers
12.30 – 14.00	<i>Lunch and departure</i>

## Posters

**Narain Maharaj Ashta**, *Empa, Swiss Federal Laboratories for Materials Science and Technology, Switzerland*

Quantifying the wet and dry atmospheric deposition of microplastics in Switzerland using analytical methods harmonized across environmental matrices

**Ayankoya Yemi Ayankunle**, *Tallinn University of Technology, Estonia*

Modelling Microplastics Release from Laundry Wash and Personal Care Products to Wastewater in Major Estonian Cities

**Nicolas Beriot**, *Wageningen University and research, The Netherlands*

Micro- and Nano-Plastics in Agricultural Soils: sources, environmental fate and impacts on ecosystem services and overall sustainability

**Fabio Cafagna**, *Eawag, Switzerland*

Do freeze - thaw cycles induce plastic fragmentation?

**Yanan Chen**, *Aalborg University, Denmark*

Evaluation of subsampling variability for microplastics in sediments

**Byung-il Choi**, *Korea Testing & Research Institute, South Korea*

Development of Reference Materials for Spectroscopic and Thermal Analysis of Microplastics

**Showmitra Chowdhury**, *University of Chittagong, Bangladesh*

Microplastics in Two Bivalves of The Bay of Bengal Coast, Bangladesh

**Peter Cristofolini**, *CSEM, Switzerland*

LAMPO – A Low-cost Aquatic MicroPlastic Observation system for automatic ocean monitoring

**Guillaume Crosset-Perrotin**, *Eawag, Switzerland*

Surrogate standards as a proxy for microplastics extraction efficiency from sewage sludge

**Walison Augusto Da Silva Brito**, *Leibniz Institute for Plasma Science and Technology, Germany*

Uptake and toxicity of different microplastics polymer types, sizes, and concentrations in three different cell lines

**Anna Daniela Dorsch**, *Leibniz Institute for Plasma Science and Technology, Germany*

Formation and dynamics of lipid coronas on model plastic particles and their influence on cellular transport processes

**Julia Dusaucy**, *Université Savoie Mont Blanc, France*

Microplastic pollution in french subalpine lakes

**Zahid Ahmad Ganie**, *Indian Institute of Science Education and Research Kolkata, India*

Temperature-induced modifications in sugarcane bagasse derived biochar: A sustainable solution for nanoplastic remediation

**Priyansha Gupta**, *CSIR- National Institute of Oceanography, India*

Influence of COVID-19 pandemic on the distribution and distinctive source of MPs from the riverine system of central west coast of India: A comparative approach

**Ramin Hosseinezhad**, *Centre of Molecular and Macromolecular Studies, Polish Academy of Sciences, Poland*

The role of morphology on the controlled crazing of biopolymer systems

**Blaž Hrovat**, *University of Eastern Finland, Finland*

Preparation of synthetic microplastics for method validation studies

**Piotr Jachimowicz**, *University of Warmia and Mazury in Olsztyn, Poland*

Effect of the tire microplastic on microbiome of aerobic granular sludge

**Jena Jamšek**, *National Institute of Biology, Marine Biology Station, Slovenia*

Distribution of microplastics in the sediment of the Gulf of Trieste

**Tomas Kleint**, *Hochschule Zittau/Görlitz - University of Applied Sciences, Germany*

Microplastics weathering affecting recovery rates of oil separation during microplastics extraction from soils

**Nick Krekelbergh**, *Ghent University, Belgium*

Fluorescence microscopy versus Raman spectroscopy for direct identification of small (< 2 µm) microplastics in soils

**Katrina Kremer**, *University of Bern, Switzerland*

Spatial and temporal variability of plastics in lake sediments (Lake Hallwil, Switzerland)

**Melissa Lenczewski**, *Northern Illinois University, USA*

Impact of type and shape on the transport of microplastics in column experiments

**Anna Lewis**, *Duke University, USA*

Additive release from plastics in environmental and biological fluids

**Wang LI**, *University of Natural Resources and Life Sciences, Vienna, Austria*

Transport of Polyethylene Microplastics in Natural Sediments

**Ankita Maurya**, *Indian Institute of Technology Delhi, India*

Assessment and evaluation of microplastics particles from Gorai beach of Arabian sea, Maharashtra, India

**Teresa Menzel**, *University of Bayreuth, Germany*

Quantity and composition of microplastic released by macroscopic plastic

**Christian Moeck**, *Eawag, Switzerland*

Microplastics occurrence in Swiss ground- and surface water

**Marziye molazadeh**, *Aalborg University, Denmark*

Stormwater ponds, sinks, or sources of microplastics?

**Angélique Moraz**, *Agroscope, Switzerland*

Towards an optimized and reliable analytical protocol to quantify microplastics in Swiss soils

**Jane Muncke**, *Food Packaging Forum Foundation, Switzerland*

AURORA – studying early-life health impacts of micro-and nanoplastics

**Prasanth Babu Ramesh**, *IITB Monash Research Academy, India*

Enumeration of structural and physicochemical properties of biofilm formation on micro bioplastics

**Julia Prume**, *Philipps University Marburg, Germany*

Towards representative sampling designs: small-scale distribution of microplastics in Lahn River sediments in Gießen, Germany

**Federica Rotta**, *University of Applied Sciences and Arts of Southern Switzerland, Switzerland*

Microplastic pollution in Lake Lugano's watershed: A look beyond the surface

**Fariba Saadati**, *Leibniz Institute for Plasma Science and Technology, Germany*

Microplastic toxicity in chicken embryos and genotoxicity using cytokinesis-block micronucleus assay and high content imaging

**Marisa Sarria Pereira de Passos**, *European Commission, Joint Research Centre (JRC), Italy*

Asymmetric Flow-field Fractionation combined to polymer-specific binding peptides as biosensors to nanoplastics tagging and detection

**Débora Sorolla Rosario**, *University of Alicante, Spain*

Microplastics' analysis in water: Easy handling of samples by a new Thermal Extraction Desorption-Gas Chromatography-Mass Spectrometry (TED-GC/MS) methodology

**Meredith Sutton**, *University of Nebraska - Lincoln, USA*

Microplastics in surface waterbodies in agroecosystems in the central United States

**Basilius Thalmann**, *ZHAW, Switzerland*

Improved detection and identification of microplastics in soils through the combination of Nile red staining and FTIR-analysis

**Daniela Thomas**, *Thuenen-Institute, Germany*

Sample treatment techniques for the analysis of conventional and biodegradable microplastics from solid sample matrices

**Faith Tumwet**, *TU Bergakademie Freiberg, Germany*

Effect of fragmentation on the transport of polyvinyl chloride and low-density polyethylene in saturated quartz sand

**Tong Yang**, *Empa, Swiss Federal Laboratories for Materials Science and Technology, Switzerland*

The Nanoplastic Release Mechanism during Washing of Polyester Textiles: a Systematic Study on the Origin