



Program

Sunday, 28. April, 2019

From 15.00

Registration

18.30 – 19.45

Welcome reception (Apéro Riche)

Opening Session

Chairperson: Kathrin Fenner, *Eawag, Switzerland*

19.45 – 20.00

Kathrin Fenner, *Eawag, Switzerland*
Welcome address

20.00 – 21.00

Jörg E. Drewes, *Technical University of Munich, Germany*
Understanding microbial biotransformation of contaminants in natural
and engineered systems: The past, present and future

Monday, 29 April 2019

Analytical and experimental toolbox

Chairperson: TBA

- 08.15 – 08.45 **Tong Zhang**, *Hong Kong University, China*
Metagenomics Insights into microbial bio-transformation of environmental pollutants
- 08.45 – 09.15 **Juliane Hollender**, *Eawag, Switzerland*
Emerging analytical tools have boosted bio-transformation research
- 09.15 – 09.35 **Boris Bugsel**, *University of Tübingen, Germany*
LC-HRMS screening for precursors and transformation products of poly- and perfluorinated alkyl substances (PFAS) in contaminated soil
- 09.35 – 09.55 **Stefan Achermann**, *Eawag, Switzerland*
Analysis of micropollutant biotransformation kinetics and products reveals reaction-type-specific behavior
- 09.55 – 10.15 **Arne Wick**, *Federal Institute of Hydrology, Germany*
Biotransformation of anthropogenic trace organics by cell-free lysates and enzyme fractions of activated sludge
- 10.15 – 10.30 Discussion
- 10.30 – 11.00 *Coffee break*

Environmental and operational factors

Chairperson: TBA

- 11.00 – 11.15 **CSF and Fondazione Monte Verità**
Welcome address
- 11:15 – 11.45 **Tillmann Lüders**, *University of Bayreuth, Germany*
Stable isotope-guided omics to dissect pollutant-degrading microbiomes in the water cycle
- 11.45 – 12:05 **Torsten Reemstma**, *UFZ, Germany*
The evolution of a new biodegradation potential in municipal wastewater treatment - the case of Acesulfame and Bosea sp. 3-1B
- 12.15 – 13.30 *Lunch*

Environmental and operational factors (cont.)

Chairperson: TBA

- 13.30 – 13.50 **Christian Köhler**, *Environmental Research and Innovation, Luxembourg*
Systematic monitoring by passive samplers on WWTPs provides new insights in micropollutant elimination, related process parameters and degradation pathways
- 13.50 – 14.10 **Cresten Mansfeldt**, *Eawag, Switzerland*
Entwined factors: the influence of ammonia on protozoa's interaction with trace organic contaminants
- 14.10 – 14.30 Discussion
- 14.30 – 15.00 *Coffee break*
- 15.00 – 17.00 Individual exchange/free time
- 17.00 – 17.20 Poster Pitches I (1 minute-1 slide for each poster) in plenary
- 17.20 – 19.00 Poster Session I
- 19.00 – 20.30 *Dinner*

Chairperson: TBA

- 20.30 – 21.30 **Michael Sander**, *ETH Zurich, Switzerland*
Microbial bio-transformation of synthetic polymers in agricultural soils:
Development of analytical tools to advance a mechanistic process understanding

Tuesday, 30 April 2019

Bioavailability and accessibility

Chairperson: TBA

- 08.30 – 09.00 **Kankana Kundu**, *Technical University of Munich, Germany*
An interplay between mass-transfer limitation and physiological adaptation determines turnover of organic micropollutants in the environment
- 09.00 – 09.20 **Kiran R. Patil**, *European Molecular Biology Laboratory, Germany*
Bioaccumulation of therapeutic drugs by human gut bacteria
- 09.20 – 09.40 **Lukas Wick**, *Helmholtz Centre for Environmental Research - UFZ, Leipzig Germany*
Mycosphere processes for contaminant degradation
- 09.40 – 10.00 **Felix Stibany**, *RWTH Aachen, Germany*
Environmental risk assessment of poorly soluble substances: Improved tools for assessing biodegradation, (de)sorption, and modelling (CEFIC LRI-ECO32)
- 10.00 – 10.15 Discussion
- 10.15 – 10.45 *Coffee break*

Linking enzymes to biotransformation

Chairperson: TBA

- 10:45 – 11.15 **Kathrin Fenner**, *Eawag, Switzerland*
Linking micropollutant bio transformation with microbial community characteristics in activated sludge (and beyond)
- 11.15 – 11.45 **Michael Zimmermann**, *Yale University School of Medicine, USA*
Systematic identification of drug-metabolizing bacteria and responsible gene products to predict gut communities' drug metabolism
- 11.45 – 12.05 **Klaus Fischer**, *University of Trier, Germany*
Embedding the enzymatic transformation of xenobiotics in the context of environmental enzymology
- 12.15 – 13.30 *Lunch*

Linking enzymes to biotransformation (cont.)

Chairperson: TBA

- 13.30 – 13.50 **Michael T. Zumstein**, *Cornell University, USA*
Enzyme activity and biotransformation of antibiotics in different enzyme fractions derived from wastewater microbial communities
- 13.50 – 14.10 **Lorena Gonzalez-Gill**, *University of Santiago de Compostela, Spain*
Unravelling the enzymatic transformations behind the anaerobic removal of organic micropollutants
- 14.10 – 14.25 Discussion
- 14.30 – 15.00 *Coffee Break*
- 15.30 – 17.00 [Working Groups I - IV](#)
- 17.00 – 17.20 Poster Pitches II (1 minute-1 slide for each poster) in plenary
- 17.20 – 19.00 Poster Session II
- 19.00 – 20.30 *Dinner*

Chairperson: **Lorenz Adrian**, *UFZ, Germany*

- 20.30 – 21.30 **Elizabeth A. Edwards**, *University of Toronto, Canada*
Metagenomics of anaerobic microbial consortia

Wednesday, 1 May 2019

Linking key species to biotransformation

Chairperson: TBA

- 08.30 – 09.00 **Jeppe Nielsen**, *Aalborg University, Denmark*
New functional genes involved in degradation of micropollutants
- 09.00 – 09.20 **Ke Yu**, *Peking University, China*
An integrated meta-omics approach reveals substrates involved in synergistic interactions in a bisphenol- A (BPA)-degrading microbial community
- 09.20 – 09.40 **Mengyan Li**, *New Jersey Institute of Technology, USA*
Untangling the robust versatility of soluble di-iron monooxygenases in initiating the biotransformation of emerging and legacy water pollutants
- 09.40 – 10.00 **David Wolff**, *Federal Institute of Hydrology, Germany*
Micropollutant degradation and taxonomic composition in hybrid MBBR – a comparison of biofilm and suspended sludge
- 10.00 – 10.15 Discussion
- 10.15 – 10.45 *Coffee break*

Linking key species to biotransformation

Chairperson: TBA

- 10.45 – 11.15 **Dimitrios Karpouzias**, *University of Thessaly, Greece*
Using multiomic approaches to dissect the genetic network driving pesticides biodegradation by individual bacteria and bacterial consortia
- 11.15 – 11.35 **Claudia Coll Mora**, *Stockholm University, Sweden*
Influence of bacterial community composition on biodegradation of micropollutants
- 11.35 – 11.55 **Jonathan Sharp**, *Colorado School of Mines, USA*
Nitrogen attenuation reliance on intertwined biogeochemical processes in non-vegetated engineered wetlands
- 12.00 – 13.15 *Lunch*

Linking key species to biotransformation (cont.)

Chairperson: TBA

- 13.15 – 13.35 **Pedro N. Carvalho**, *Aarhus University, Denmark*
Constructed wetlands for organic pollutants treatment: linking design factors with microbial community function

13.35 – 13.55

Maria Vila-Costa, *IDAEA-CSIC, Barcelona, Spain*

Microbial responses to anthropogenic dissolved organic carbon in the ocean

13.55 – 14.15

Discussion

15.00

Departure for afternoon excursion and conference dinner at the Island of Brissago

Thursday, 2 May 2019

Implications for biotransformation prediction and assessment

Chairperson: TBA

- 08.30 – 09.00 **Lawrence Wackett**, *University of Minnesota, USA*
Biodegradation prediction and utility
- 09.00 – 09.20 **Lorenz Adrian**, *Helmholtz Centre for Environmental Research - UFZ, Leipzig Germany*
Fate prediction of halogenated aromatics in technical and natural anoxic environments
- 09.20 – 09.40 **Michael S. McLachlan**, *Stockholm University, Sweden*
Can benchmarking be employed to describe the spatial and temporal variability in biotransformation?
- 09.40 – 10.00 **Paola Meynet**, *Newcastle University, UK*
Accuracy in predicting micropollutant fate under temperature stresses
- 10.00 – 10.15 Discussion
- 10.15 – 10.45 *Coffee break*

Designing next-generation treatment processes

Chairperson: TBA

- 10:45 – 11.15 **Uwe Hübner**, *Technical University of Munich, Germany*
New treatment concepts to take advantage of functionally-modified microbial communities for enhanced biotransformation of trace organic chemicals
- 11.15 – 11.45 **Victor de Lorenzo**, *CSIC, Spain*
How environmental bacteria invent new reactions—and how we can capitalize on them
- 11.45 – 12.05 **Jose J. Ortega-Calvo**, *CSIC Sevilla, Spain*
Operating on bioavailability processes with biodegradable chemicals: Roles of pollutant phase exchange and microbial dispersal
- 12.15 – 13.30 *Lunch*

Designing next-generation treatment processes

Chairperson: TBA

- 13.30 – 13.50 **Benedek G. Plósz**, *University of Bath, UK*
Microbial resource management conducive to enhanced trace organic removal using advanced biofilm reactor designs
- 13.50 – 14.10 **Jens Aamand**, *Geological Survey of Denmark and Greenland, Denmark*
Introduction of pesticide-degrading bacteria to rapid sand filters as a tool to remediate pesticide-polluted drinking water
- 14.10 – 14.30 Discussion
- 14.30 – 15.00 *Coffee break*
- 15.30 – 17.00 [Working Groups I - IV](#)
- 17.00 – 19.00 Free time
- 19.00 – 20.30 *Dinner*

Chairperson: **Jörg E. Drewes**, *Technical University of Munich, Germany*

- 20.30 – 21.30 **Nancy Love**, *Michigan State University, USA*
Teasing out the influence of water, sanitation and food on the childhood microbiome: a case study from Addis Ababa, Ethiopia

Friday, 3 May 2019

Chairperson: Elizabeth Edwards, University of Toronto, Canada

08.30 – 09.30	Wei Huang , <i>Oxford University, United Kingdom</i> Development and applications of simple cells (SimCells) as reprogrammable cellular machinery
09.30 – 10.45	Working Group Reports
<i>10.45 – 11.30</i>	<i>Coffee break</i>
11.30 – 12.00	Awards and Wrap-up
<i>12.15 – 13.30</i>	<i>Lunch and departure</i>

Poster Session I

This list includes only registered poster authors. It will be updated after the registration deadline.

Marie Aggerbeck, Aarhus University, Denmark

Biodegradation of endocrine disruptors

Mohammad Sufian Bin Hudari, Helmholtz Centre for Environmental Research-UFZ, Germany

Biogeochemical effects of temperature changes on microbial communities and groundwater contaminations

Charlotte Bopp, Eawag, Switzerland

Impact of oxygen activation on substrate isotope effects of enzymatic oxygenations

Thorsten Gravert, Aarhus University, Denmark

Suspect screening for potential endocrine-disrupting transformation products of phytosterols using nanoflow UHPLC-UHRMS

Karina Knudsmark Sjøholm, Technical University of Denmark, Denmark

Temperature dependency of biotransformation kinetics in environmental surface waters

Chuanzhou Liang, Aarhus University, Denmark

Co-metabolism or competitive inhibition between acetate and pharmaceuticals in post-treatment moving bed biofilm reactors (MBBR)?

Joseph Donald Martin, Aarhus University, Denmark

Identification of pesticide biodegradation pathways using toxicometabolomics

Anna Sobek, Stockholm University, Sweden

Changes in sediment bacterial community diversity and structure throughout an OECD308 test with ten micropollutants

Christian Zwiener, University of Tübingen, Germany

Biotic and abiotic transformation products of the antidepressant fluoxetine

Poster Session II

This list includes only registered poster authors. It will be updated after the registration deadline.

Silvia Berkner, German Environment Agency, Germany

(How) Can regulatory studies provide information to better understand transformation of pharmaceuticals in environmental compartments?

Rikke Hammershøj, Technical University of Denmark, Denmark

Investigating the effect of test concentration on biodegradation kinetics of two hydrophobic complex mixtures

Karina Knudsmark Sjøholm, Technical University of Denmark, Denmark

Sludge transformation in WWTPs leads to increased exposure for hydrophobic organic chemicals

Futoshi Kurisu, The University of Tokyo, Japan

Screening organic matters consumed by the bacterial growth in treated wastewater

Mengyan Li, New Jersey Institute of Technology, USA

Microbial community analysis in biologically active filters exhibiting efficient removal of emerging contaminants and impact of operational conditions

Nadia Morson, University of Toronto, Canada

Vinyl chloride reductase, *bvcA*, genomic island identified in bacteriophage genome in dechlorinating microbial consortium KB-1

John Parsons, University of Amsterdam, the Netherlands

Effects of adaptation of WWTP sludge on the biodegradation of emerging pollutants

Aaron Redman, ExxonMobil, Belgium

Limited temperature dependence observed on biodegradation of hydrocarbons