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International Web Conference - Microplastics in Soils



First Project Workshop:
 “Microplastics in soils, compost and plants”

Web Conference on Big Blue Button

9th and 10th of September, 2020

8:45 - 14:00 CET

Free Participation, no fee required

Log in: <https://bbb.hszz.de/b/tom-edp-ifv>

Password: provided after registration



Institute of Process Development, Peat and
 Natural Product Research (iTN)
 University of Applied Science Zittau/Görlitz, Germany

Workshop Program, September 9th and 10th 2020

September 9th - Analytics

08:45 Login and Software Check

09:00 Introduction

Jürgen I. Schoenherr (Zittau/Görlitz University of Applied Sciences, iTN)

Session 1, Chair: Tomas Kleint

**09:05 Microplastics
 in Soils, Compost and Plants**

Anne Richter, Tomas Kleint, Faith Chebet Tumwet, Madlen Reuter (Zittau/Görlitz University of Applied Science)

**09:30 Some Basic Aspects of Polymer
 Chemistry and Interfaces (and their Potential
 Impact on the Behavior of Microplastic)**

Jens Weber (Zittau/Görlitz University of Applied Science, iTN)

**10:00 Polymer degradation and its impact on the
 environment**

Stefanie Maaß (Universität Potsdam)

**10:30 Analytics of Microplastics by
 Quantitative 1H-NMR Spectroscopy**

Nadine Peez (Universität, Koblenz-Landau)

11:00 Break

Session 2, Chair: Tomas Kleint

**12:00 Characterization of Microplastics by
 RAMAN-assisted Microscopy**

Andrea Käppler (Leibniz-Institut, Dresden)

**12:30 Sampling, Sample Treatment and Density
 Separation of Microplastics in Compost**

Berit Schütze (Thünen-Institut, Braunschweig)

13:00 Brief conclusion

Jürgen I. Schoenherr (Zittau/Görlitz University of Applied Sciences, iTN)

September 10th - Environmental Effects

08:45 Login and Software Check

09:00 Introduction

Jürgen I. Schoenherr (Zittau/Görlitz University of Applied Sciences, iTN)

Session 3, Chair: Anne Richter

**09:05 Estimating regional Distributions of
 Agricultural Microplastic Immissions into
 Soils**

Elke Brandes (Thünen-Institut, Braunschweig)

**09:35 Effects of Microplastics on Soil
 Animals**

Frederik Büks (TU Berlin)

10:05 Break

Session 4, Chair: Madlen Reuter

**11:05 Fragmentation of Polymer-based
 impurities in Organic Waste Treatment Plants**

Jakob Hildebrandt (Zittau/Görlitz University of Applied Sciences, iTN)

**11:35 Developing of Sensor-based Sorting Processes
 in Plastics**

Hendrik Beel (Steinert UniSort GmbH, Zittau)

12:05 Conclusion

Jürgen I. Schoenherr (Zittau/Görlitz University of Applied Science, iTN)

Background:

Scientific Background

For several years now, numerous projects have been researching the topic of microplastics. It is assumed that soils act as sinks for microplastics and that they accumulate microplastics more than aquatic ecosystems. Extent and effects of the contamination are subject of current research.

Workshop Background

Within the young researcher's project "Microplastics in soils", the series of workshops "International Conference on Microplastics in Soils" was launched with the aim of providing information on current research projects and results from various institutions. The key topics are

- Analytics
- Process Engineering
- Monitoring
- Effects on Vegetation
- Modeling



The participation of different researchers in the field of microplastics can lead to the exchange of information, new contacts and new synergies in order to better meet the various challenges in microplastics research

Flyer Version: September 1st, 2020

Project & Members:

Integration of the project in the institute

Since 2006, the Institute for Process Development, Peat and Natural Products Research has been researching in various projects in the field of plastics sorting and vegetation/soil analyses in the following working groups



- Process development
- Soil and Geotechnical Engineering
- Peat and Humic Substances

The new research project "Microplastics in soil" has established a new research focus that combines interdisciplinary tasks in the fields of chemistry, agricultural ecology, process engineering and modelling.

Goals

- Creation of a database of properties and characterization methods of various plastics.
- Development of a simple and inexpensive analysis method for plastics from soils.
- Development of an elimination method of plastics from soil/compost.
- Implementation of an extensive monitoring and identification of contamination hotspots.
- Investigation of effects of Microplastics on vegetation
- Development of a forecast model for transport of Microplastics in soil.
- Investigation of plastic decay processes (degradation)

Participants

Team Tutors: J. I. Schoenherr, J. Weber, J. Dörnchen-Neumann, T. Scheytt, N. Klammerth

Team Members: T. Kleint, M. Reuter, A. Richter, F. C. Tumwet

Contact

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Registration

The access data for the meeting room will be sent to you after the successful registration. Please send a registration form to Anne Richter enclosing the completed data protection statement.

Registration by:

September 4th, 2020



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House IX, Room 102

Inquiries & Contributions

For professional and technical issues before the event, as well as for the submission of the contributions, please contact Madlen Reuter by

September 4th, 2020



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