UNIVERSITÄT BAYREUTH

Bayceer
Bayreuther Zentrum für Ökologie und Umweltforschung

Sommersemester / *Summer Term 2016*

BayCEER Kolloquium

Vortragsreihe Ökologie und Umweltforschung
Lecture series in Ecology and Environmental Research

Do. /*Thu.* 12 st
Gebäude/*Building*
GEO
Hörsaal/*Lecture hall*
H6

Donnerstag 28.04.2016, 12:00 Uhr, H6

Anschließend Postkolloquium mit Mittagsimbiss im Foyer H6

Dr. Michael Sander

Environmental Chemistry, ETH Zürich, Switzerland

Fate of biodegradable polyesters in agricultural soils - from enzymatic hydrolysis to microbial uptake and mineralization

The accumulation of persistent synthetic organic polymers in the environment has become a major environmental concern. Replacing these materials by biodegradable polymers in specific application areas may help to alleviate this problem. Among these areas are agricultural practices that heavily rely on the use of plastics. This talk focuses on assessing the factors that govern the biodegradation of aliphatic polyesters, composed of alternating units of dialcohols and dicarboxylic acids, in agricultural soils. The talk has three successive parts that target three key processes involved in polyester biodegradation: The first part focuses on enzymatic polyester hydrolysis, which is commonly considered the rate-limiting step in the overall biodegradation of these materials in soils. The second part describes the mineralization dynamics of a selected, ^{13}C-labeled aliphatic polyester, polybutylene succinate, in an agricultural soil under laboratory conditions. The third part addresses the colonization of polyester film surfaces by soil fungi and unicellular microorganisms as well as the uptake of polymeric carbon into microbial biomass using a combination of surface imaging techniques. The novel insights into polyester biodegradation will serve to provide a brief outlook to future work on the fate of biodegradable polymers in soils and other environmental systems.

Die Vortragsreihe ist eine interdisziplinäre Plattform zur Information und Diskussion für Studierende, Forschende und Lehrende

Gäste sind herzlich willkommen

The lecture series serves as an inter-disciplinary platform for students, junior and senior scientists.

Guests are cordially invited!

Kurzfassungen und weitere Infos / *Abstracts and further information*:
www.bayceer.uni-bayreuth.de/kolloquium/

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