

# BayCEER Kolloquium

Lectures in Ecology and  
Environmental Research

## Summer 2025



UNIVERSITÄT  
BAYREUTH

Donnerstag/Thursday

**03.07.2025**

**12:30 in H6, GEO**



**Prof. Dr. Rainer Meckenstock**

Chair for Aquatic Microbiology,

Faculty of Chemistry, University of Duisburg-Essen

## Microbial life in oil reservoirs

Microorganisms are present in oil reservoirs around the world where they degrade oil and lead to changes in oil quality. Unfortunately, our knowledge about processes in deep oil reservoirs is limited due to the lack of undisturbed samples. Reservoir microbes are also an invaluable resource for investigating anaerobic pollutant degradation. In our research, we investigate the activity of microorganisms at oil-water transition zones as well as in water saturated parts of oil legs. This has become possible via undisturbed drill cores obtained from several sites. We also investigate natural oil and asphalt seeps e.g. in the spectacular Pitch Lake in Trinidad. Here, we have discovered that small  $\mu\text{l}$ -water droplets in oil provide a previously unknown habitat for microorganisms within natural oil reservoirs, which can be considered as isolated microbial islands. This presentation will provide fascinating insights into the microbial ecology of oil reservoirs, which challenge the current understanding of oil biodegradation.

