

Training Event TE-A

12.09 – 16.09.2016

TU-Dresden & Braunschweig



Schedule

- 1.5 days for Statistics and models for environmental data (**SC2**)
- 1 day for molecular risk characterisation (**SC3**)
- 1.5 day for writing and publishing research
- Study visit to AVBS (fields, treatment plants and systems) in Braunschweig

Molecular risk characterisation (SC3)

Objectives

- Give an overview of antibiotic resistance, horizontal gene transfer and potential risk for the environment
- Familiarize with the used methods, their pros and cons

Topics

- Antibiotic resistance (AR)
- Antibiotic resistance genes (ARG) and bacteria in WWTPs
- Horizontal gene transfer mechanisms
- Risks of release to the environment
- Methods for detection AR and ARG
- Seminar/discussion on relevant publications and methods used

Statistics and models for environmental data (SC2)

Objectives

- Learn about the advantage of script-based data processing
- Understanding the nature of mechanistic models
- Apply selected statistical methods in practice

Topics

- Introduction to R, an environment for statistical computing
- Ordinary differential equations (ODE) and numerical methods
- A basic, ODE model of plasmid-mediated antibiotic resistance
- Identification of model parameters from experimental data
- Sensitivity analysis
- Statistical analysis of model outputs

Writing and publishing research

Workshop:

Writing and Publishing Research, Part One

This workshop aims to built up and enhance your English speaking and writing skills, accordingly this course will be held entirely in English, to run through a morning session of practical English writing skills (common pitfalls, grammar, punctuation) and how to achieve good writing (accuracy, brevity, clarity and style), demonstrate the process of publication, targeting your writing for a specific journal, addressing the cover letter.



Study visit to AVBS in Braunschweig

- Wastewater purification
- Utilisation of waste water through agricultural
- Usage and irrigation
- Utilisation of sewage sludge
- Biogas production through renewable raw materials

