Internship and thesis opportunities in Germany in the fields of Systems Biology and Environmental Biotechnology

We, the Systems Biology of Microbial Communities group, invite you to a research stay at the Helmholtz Centre for Environmental Research - UFZ. No matter if it is for your bachelor or master thesis, an internship, or a senior design project: challenging tasks are awaiting you to be solved!

The Helmholtz Centre for Environmental Research (UFZ) with its 1,100 employees has gained an excellent reputation as an international competence center for environmental sciences. Our research seeks to find a balance between social development and the long-term protection of our natural resources. The UFZ is located in the city of Leipzig, “Germany’s new cultural hotspot”, which is also only a stone’s throw away from Berlin and Prague.

Our research activities span the whole range from lab work to mathematical modelling and the development of novel bioinformatics tools. Which area fascinates you most? Check out our project’s conceptual overview McBiogas: Metabolism-centered Predictive Modeling of Anaerobic Digestion for Biogas Production!

**McBiogas: Conceptual Overview**

- **Microscale** (Enzyme-level)
  - Metagenomics
  - Metatranscriptomics
  - Metaproteomics
  - Network inference
  - Binning
  - Assembly
  - Annotation
  - Draft network
  - Manual curation

- **Constrained-based methods**
  - Microcalorimetry
  - Protein-SIP

- **Macroscale** (Population, Reactor)
  - Performance
    - Gas production
    - Gas composition
  - Community composition
    - T-RFLP Fingerprinting
    - Amplicon-Sequencing
    - Flow-Cytometry
  - Predictions
    - Dynamic Flux-Balance-Analysis
  - Online monitoring/Optimal control
  - ODE-based dynamic models (ADM1, gLV)

Found your favourite research area? Please contact us to discuss whether we can agree on a suitable project plan for you in your desired time frame!

Please note:
- We cannot pay for your stay but will support you in applying for a scholarship  
- Your research stay should last for at least 3 months and be an official part of your studies at home
- Please send us your CV, a short letter of motivation, as well as date and duration of your intended stay

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