

Michaela Brunzel

Position: PhD Student
Project: C05
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Research Interests

- Polymer Chemistry
- Analytical Chemistry
- Solution characterization

Current Project

PhD thesis, working title: “Development and fundamental characterization of a polymer tracer library for subsurface (reactive) environmental transport experiments”

The main task is the investigation and understanding of the flow and migration paths of soluble organic materials. The development and fundamental characterization (Analytical Ultracentrifugation - AUC, Asymmetrical Flow Field-Flow Fractionation - AF4) of a polymer tracer library for subsurface environmental transport experiments in the Hainich CZE to reconstruct the migration pathways and mimic size, shapes, hydrophobicity and hydrophilicity of natural colloidal matter, by using tailored synthetic tracers, which act as functional analogues stay in focus. The project provides a tracer library based on methacrylic copolymers with different properties, like hydrophobicity, degradability, charge, etc., such as controlled colloidal size between 1 nm and 1000 nm, stability, pH- and redox dependent, as well as non-toxic behavior.

Curriculum Vitae

03/2016 - now	PhD student at Friedrich-Schiller-University of Jena under supervision of Prof. Dr. Ulrich S. Schubert, Institute of Organic and Macromolecular Chemistry
10/2013 – 03/2016	M.Sc. in Chemistry at Technical University Dresden, Institute of Macromolecular Chemistry, Thesis: “Studies on the influence of aromatic structures on the stability of drug-loaded poly(2-oxazoline) – based micelles”
10/2010 – 09/2013	B.Sc. in Chemistry at Technical University Dresden, Institute of Radiopharmaceutical Cancer Research Helmholtz-Zentrum Dresden-Rossendorf, Thesis: “Synthesis of polyamine-based reporter molecules for transglutaminase 2 and the polyamine transport system”