

Nano- and Micro-Gels for Design of Multifunctional Materials (continuation)

Initiative: Lichtenberg - Professuren

Bewilligung: 06.10.2014

Laufzeit: 3 Jahre

The professorship deals with the synthesis, characterization and application of aqueous polymer microgels. The research is focused on design of polymer nano- and microgels with tailored properties such as: controlled size and shape; availability of functional units (reactive groups, degradable segments, binding domains); sensitivity to temperature, pH, light and organic solvents. The aqueous nano- and microgels represent unique colloidal systems that will be used in present project to develop: a) novel multifunctional materials like fibers, capsules and composites b) functional tools for diagnostic and controlled release; and c) switchable carriers for catalytic application. The experimental results will provide new insights into synthesis and properties of nano- and microgels with new functions as well as the design of multifunctional materials on their basis. Furthermore, this project will contribute to the development of novel interactive materials by considering the surface and interface phenomena, reactions in heterophase systems and transport phenomena in polymer materials.

Projektbeteiligte

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