

Enseignants-chercheurs
et chercheurs invités en

2017

Pr. Imre Varga

- Institute of chemistry /Eötvös Loránd University Budapest (Hongrie) -

Conférence

*How to create responsive building blocks
for hierarchical nanostructures?*

The synthesis of responsive nanogel particles has attracted a considerable interest in the last decade. To meet the challenges of nanotechnology, there is compelling need to develop synthetic methods for controlling the internal structure of the nanogel beads. To achieve this goal the monomer conversion during the polymerization of pNIPAm nanogel particles has been investigated. Our results indicated that in agreement with literature results the formed nanogel beads have inhomogeneous internal structure, which is the consequence of the different monomer reactivities. Based on our kinetic data we were able to control the internal structure of the prepared nanogel particles by controlling the monomer concentrations in the reaction mixture during the particle synthesis. This allowed us to prepare nanogel particles with homogenous internal structure and with unique core/shell architecture. Examples of microgels with 100% anionic and cationic shells as well as particles with hydrophilic non-ionic shells (PEG and PVA) will be shown.

The prepared core/shell microgels have been utilized as building blocks in the formation of more complex hierarchical structures. Using electrostatic and host/guest self-assembly as well as chemical crosslinking we prepared both self-assembled sterically stabilized multi-shell microgel beads, self-assembled responsive sol/gel systems and nanocomposite macrogels with fast response time.

Dates

- Lundi 16 octobre 2017 à 14h30

Lieu

Institut de Chimie et des Matériaux (ICMPE)
Auditorium
2 rue Henry Dunant
Thiais

La conférence est dispensée en anglais.

Inscription - information : amiel@icmpe.cnrs.fr

ÉCOLE DOCTORALE UNIVERSITÉ
— PARIS-EST
Sciences, Ingénierie et Environnement