GESELLSCHAFT DEUTSCHER CHEMIKER
ORTSVERBAND SIEGEN

Ankündigung

Am Dienstag, **23. April 2019**, spricht um **16:30 Uhr**
im Hörsaal AR-F 002, Department Chemie und Biologie

M. Sc. Qimeng Song

Universität Siegen

Lecture of Young Research Talent
***in honor of the* 150th anniversary of discovery of the periodic table**

über das Thema

„Tailored combinatorial microcompartments via self-organization of microobjects: Assembly, characterization and cell studies“

Kaffeerunde ab 16 Uhr im Foyer des Hörsaals AR-F 002.

Alle interessierten Kolleginnen und Kollegen, Mitarbeiterinnen und Mitarbeiter und Studierende sind zu diesem Vortrag herzlich eingeladen.
Gäste sind herzlich willkommen.

Der Ortsverbandsvorsitzende
PD Dr. Stephan Bäurle
Tel. 0271 740-4025

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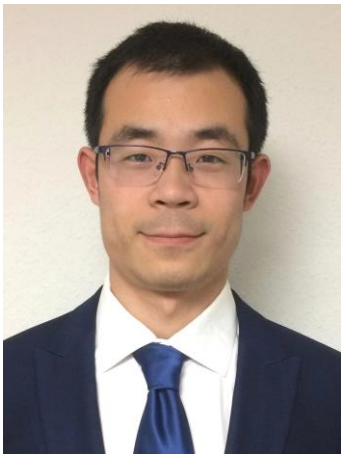

M. Sc. Qimeng Song

Tailored combinatorial microcompartments via self-organization of microobjects: Assembly, characterization and cell studies

Particle self-assembly at liquid/liquid and liquid/air interfaces driven by capillary forces has gained a great deal of attention in chemistry, physics and biology for more than two decades. In this work, systematical investigation of cube orientation and capillary interactions for surface functionalized polystyrene (PS) microcubes that were fabricated via nanoimprint lithography (NIL) technique followed by self-assembled monolayer-based surface modification to control the wettability of five sides of the cubes are reported. With increasing the hydrophobicity of cube face, the orientation of the cubes at the water-air interface was found to be preferentially face up, edge up or vertex up, which resulted in the assembly of 'flat plate', 'tilted linear' and 'close-packed hexagonal' aggregates, driven by capillary force, respectively. In additional, based on 'close-packed hexagonal' aggregates, the asymmetric multifunctional 3D cell microenvironments were fabricated by introducing nanostructure and polymer brushes to the cube surfaces. The random assembly of different cubes from a library comprising microcubes that are pre-functionalized or surface-structured exclusively on their top surface opens a pathway to generate a multitude of different microenvironments in a massively parallel combinatorial manner, enabling future systematic structure-property relationship studies with cells.