GESELLSCHAFT DEUTSCHER CHEMIKER
ORTSVERBAND SIEGEN

Ankündigung

Am Dienstag, **7. Mai 2019**, spricht um **16:30 Uhr**
im Hörsaal AR-F 002, Department Chemie und Biologie

Prof. Dr. Sanjay Mathur

Universität zu Köln

über das Thema

„Nanochemistry: From Molecules to Materials for Energy and Health Applications“

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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Prof. Dr. Sanjay Mathur

Nanochemistry: From Molecules to Materials for Energy and Health Applications

Chemical processing of functional ceramics has played a key role in converging disciplines, which is especially true for their bridge-building role in integrating the concepts of inorganic materials synthesis with fabrication and integration of ceramic device components. Inorganic nanostructures offer new opportunities in materials engineering due to their improved intrinsic properties resulting from the reduction of microstructural features, which also allows engineering the interfacial properties. This talk will present how chemically grown nanoparticles, nanowires and nanocomposites of different metal oxides can be transformed into integrated advanced material technologies. Examples will include application of superparamagnetic iron oxide nanoparticles for magnetic resonance imaging (MRI) and drug delivery applications, vapour phase synthesis and electrospinning of nanowires for application as electrode materials and in PEC water splitting reactions. New sensing concepts based on the integration and correlation of complementary functionalities originating from multiple junctions in a singular nanostructure to palliate the current issues in gas sensor technologies such as low power consumption, low operating temperature and cost effective production will be elaborated. Finally, the current challenges of integration of nanomaterials in existing device concepts will be discussed.