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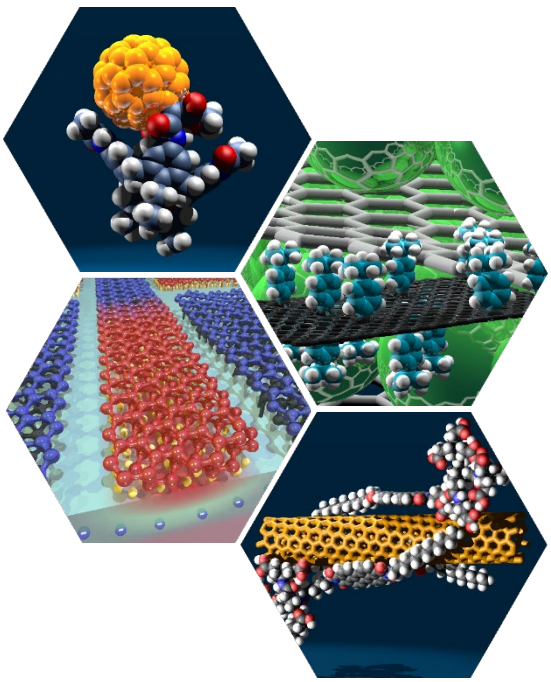
Seminar series of the Collaborative Research Centre (SFB) 953 «Synthetic Carbon Allotropes»



Liquid Phase Exfoliation of Layered Crystals - A story about nanomaterial production, their properties and stability

Dr. Kevin Synnatschke
School of Physics, Trinity College Dublin, Ireland

22th July 2022

15:30 pm

Lecture Hall C4 – Chemikum
Nikolaus-Fiebiger Straße 10

... and ... Zoom-Meeting

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Liquid-phase exfoliation (LPE) renders a powerful top-down approach to produce 2D nanosheet inks of a large variety of layered materials, ready for deposition and further processing. However, for most applications precise control over the nanosheet size and thickness distribution in such inks is of necessary. To this end, cascade centrifugation is a promising methodology to split the obtained nanomaterial into fractions of narrowed size distributions, which enables to study the impact of the material size on fundamental properties as well as the materials' chemical stability as a function of the accessible surface area. This is important, as an extensive understanding of a nanomaterials stability allows to tailor the conditions for the exfoliation and further processing to avoid the nanosheet degradation.

DFG Deutsche Forschungsgemeinschaft

GSMS Graduate School Molecular Science

FAU Friedrich-Alexander-Universität Erlangen-Nürnberg