Seminar
“IRTG Soft Matter Science”

Functionalized Carbon Allotropes

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The most prominent carbon allotropes are besides C60, carbon nanotubes and graphene. Special analytical techniques and care are needed to characterize these materials. So, carbon nanotubes, e.g. SWCNTs, are bundled together with amorphous carbon. Further, they differ in size and chirality. We will show examples for an effective separation of nanotube bundles by utilizing both supramolecular interactions and selective reactivity. Graphene can be obtained from graphite as a monolayer. A historical overview on the development to graphene and graphene oxide will be given. The preparation of graphene can be achieved e.g. by reducing graphite followed by functionalization and exfoliation. Another method is based on the oxidation of graphite to graphene oxide that can be exfoliated to single sheets. These graphene oxide sheets can be reduced subsequently to yield reduced graphene oxide (graphene). However the obtained material differs significantly from graphene, hence we will elucidate the reversibility of this oxidation and reduction process.

Wednesday, June 1, 14h15
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Stefan-Meier-Str. 31, Freiburg

You are welcome to meet Mr. Siegfried Eigler, do not hesitate to contact Christelle Vergnat (softmattergraduate@physik.uni-freiburg.de)