



GESELLSCHAFT DEUTSCHER CHEMIKER
ORTSVERBAND SIEGEN

Ankündigung

Am Montag, 03. Juli 2023, spricht um 16:30 Uhr
im Hörsaal AR-F 002 des Departments Chemie und Biologie

Prof. Dr. Anke Krüger

Universität Stuttgart

über das Thema

**News from the Carbon Universe:
Functionalized carbon nanomaterials for applications in
biomedicine, quantum technology and catalysis**

Kaffeerunde ab 16 Uhr in Raum AR – H 100,
organisiert durch das
JungChemikerForum Siegen

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

Der Ortsverbandsvorsitzende
Prof. Dr. Jörn Schmedt auf der Günne



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**News from the Carbon Universe:
Functionalized carbon nanomaterials for applications in biomedicine,
quantum technology and catalysis**

Nanoscale diamond is an attractive material for a multitude of applications. This is due to its unique properties which allow the use of nanodiamond in biological environments but also under very harsh conditions. The properties of ND strongly depend on its size and morphology, and can be tuned e.g. by modifying the surface termination in a controlled way.

In addition, electronic properties of diamond, e.g. the ability of barrier-free electron emission can be controlled not only by the polarity of its surface but also by doping and nanostructuring.

In this lecture, the different types of nanoscale diamond will be presented with the synthesis, properties and possible applications. This will include the formation of differently doped nanoscale diamond particles, the controlled surface termination and subsequent functionalization, e.g. with drug molecules, sensors, photosensitizers as well as protein-repellent moieties.

Examples of applications of the obtained materials in sensing, imaging, photocatalysis and tissue engineering will be given.