



Der Vorsitzende des Promotionsausschusses

EINLADUNG

Hiermit lade ich ein zum öffentlichen Promotionskolloquium von

Herr M.Sc. Long Zhang
Kolloid- und Grenzflächenchemie
(Prof. Dr. Tobias Kraus)

am

Donnerstag, 2. Mai 2024, 10:00 Uhr s.t.

per Videokonferenz; Link für MS Teams: <https://bit.ly/3v0L0dY>
Raum für die Prüfung: Leibniz-Saal des INM, Gebäude D2.5, 5. Etage

Thema der Dissertation:

Tuning the Structure and Conductivity of Carbon-Elastomer Composites

Elastomer composites with conductive fillers have attracted considerable interest due to their mechanical flexibility and tunable electrical properties. This study focuses on the fundamental issue of network formation of carbon black (CB) fillers with different size distributions in a polydimethylsiloxane (PDMS) matrix. The percolation thresholds of composites with different CB sizes were compared to understand how the aggregate arrangement in agglomerates affects the electrical conductivity of the composites. The ionic liquid (IL) was used to soften the elastomer composites. The microstructural changes caused by the addition of IL to PDMS-CB composites were analyzed to explain the electrical, mechanical, rheological, and optical properties of the composites.

Saarbrücken, 18. April 2024

Prof. Dr. Uli Kazmaier