E I N L A D U N G

Hiermit lade ich ein zum öffentlichen Promotionskolloquium von

Frau M. Techn. Vaishali Chopra
Neue Materialien
(Prof. Dr. Eduard Arzt)

am

Donnerstag, 10. September 2020, 9:00 Uhr s.t.

Per Videokonferenz
Link für MS Teams = https://bit.ly/3aQOtNo

Thema der Dissertation:

Adhesion Modulation in Bio-inspired Micropatterned Adhesives by Electrical Fields

With steps towards Industry 4.0, it becomes imperative to the development of next-generation industrial assembly lines, to be able to modulate adhesion dynamically for handling complex and diverse substrates. The emphasis in this thesis was to equip artificial micropatterned adhesives with functionalities of tunability and devise an on-demand release mechanism. The project evaluates the potential of electric fields in this direction. The first part of this work focusses on integrating electric fields with polymeric micropatterns and studying the synergistic effect of Van der Waals and electrostatic forces for imparting tunability. The second part of the work demonstrates a novel route that exploits the in-plane actuation of the dielectric elastomeric actuators integrated with microstructure to induce peeling in them. The findings of this thesis combine disciplines of electroadhesion, electrostriction, and reversible dry adhesives to gain dynamic control over adhesion.

Saarbrücken, 27. August 2020

Prof. Dr. Gregor Jung
Vorsitzender des Promotionsausschusses