Keynote speaker

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Silicone Nanofilament coatings for Supraparticle Formation and efficient Membrane Distillation

Silicone nanofilaments can be prepared from trichloromethylsilane using a spontaneous growth process in toluene in the presence of trace amounts of water. This allows the preparation of non-fluorinated superhydrophobic surfaces with water contact angles > 160° and roll-off angles of less than 5°. We use such surfaces for the evaporation driven formation of supraparticles from colloidal dispersions. The inner structure and outer shape of such supraparticles can be tuned by the colloidal interactions and the evaporation conditions.
Another application of such nanofilament layer is the fabrication of highly efficient multilayer membranes for membrane distillation, that can be applied for water desalination or water recovery from waste water streams.