

CPP 61: Closing Talk (joint session CPP/BP/DY)

Time: Friday 13:15–14:00

Location: HSZ/0002

Invited Talk

CPP 61.1 Fri 13:15 HSZ/0002

Biomolecular Condensates: Challenges for Polymer Physics

— •JENS-UWE SOMMER — Leibniz-Institut für Polymerforschung Dresden, Bereich Theorie der Polymere, Hohe Straße 6, 01069 Dresden, Germany — TU Dresden, Institut für Theoretische Physik, Zellescher Weg 17, D-01069 Dresden, Germany

Biomolecular condensates (BMCs) constitute an emerging paradigm in the understanding of biological functions. They shift the focus

from individual biochemical processes toward the collective behavior of biopolymers, in which phase-separation mechanisms and intrinsically disordered proteins lacking canonical enzymatic roles play central and often decisive functions. Consequently, universal principles of complex (bio)polymer solutions gain relevance, and several classical questions in the physics of living matter can now be revisited from this polymer-physics perspective. In this talk, I will discuss theoretical approaches and concepts that are based on universal principles, with a particular emphasis on current challenges in the field.