

27 - 29 June 2022

ENGINEERING LIFE 2021

ACTIVE MATTER ACROSS SCALES



SUMMARY

The individual motion of active entities from molecules through cells and tissues to animals give rise to emergent collective behaviour across large scales. These, often marvel, phenomena are described in the context of Active Matter. Active matter encompasses out of thermodynamic equilibrium systems in which individual particles extract or produces energy used to generate mechanical work. The rules that govern the dynamics of collective motion are not only central in non-equilibrium statistical and soft matter physics but are also key in the understating of fundamental biological questions at different scales such as the self-organization of intra-cellular machineries and organelles, cell migration, tissue formation and morphogenesis and the dynamics of animal flocks and swarms. At the same time, this knowledge enables the design of programmable interactive materials with emergent life-like properties. The aim of this conference is to bring together scientist and engineers to nourish an interdisciplinary multifaceted discussion of active matter across scales.

SESSIONS

- 1 Synthetic molecularly active materials
- 2 Molecularly active materials in living systems
- 3 Inter-cellular interactions and morphogenesis
- 4 Collective behaviour at the population level
- 5 Adaptive materials

KEYNOTE SPEAKERS

Prof. Peter Fratzl, Max Planck Institute of Colloids and Interfaces
Prof. Frank Jülicher, Max Planck Institute of Complex Systems

REGISTRATION open again!

<https://webapp.biotec.tu-dresden.de/event/10/>



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