



# Sommerfeld Theory Colloquium

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Interplay between mechanics and chemistry in living systems

Living systems interact with their environment by exerting mechanical forces and exchanging chemical substances. By fueling nonequilibrium reactions and driven molecular transport, cells dynamically create internal protein patterns (symmetry breaking) which, in turn, control cell mechanics and force generation. Here, we discuss some examples and consequences of such a mechanochemical coupling, ranging from proteins that cooperatively bind and bend membranes, to protein patterns that elicit nonspecific cargo transport via driven diffusive fluxes on planar membranes. Finally, on much larger scales, we discuss how active cells can control tissue shape via their broken symmetry and, specifically, through their orientation.

Wednesday, 7 December 2022, 16:15h, Room A348/and/via/Zoom, Theresienstr. 37/III

Prof. Erwin Frey