PHYSICS COLLOQUIUM

Speaker: Prof. Elisabeth Fischer-Friedrich
Excellence Cluster Physics of Life
Technische Universität Dresden

Topic: How cellular surface tension brings cells and tissues into shape
Inaugural lecture

Time and place: Tuesday, November 7, 2023, 2:50 pm – hybrid event
The colloquium will be held in REC/C213.
Online participation possible:
Zoom-Meeting: Meeting-ID: 631 3817 8900 / passcode: PC-WiSe23
https://tu-dresden.zoom-de/j/63138178900?pwd=am9nSzYyeUh3SWxMdnNBWkpUaXl5UT09

Host: Dean Prof. Carsten Timm

Abstract: Just like liquid droplets, cells exhibit a surface tension. In droplets, surface tension stems from interfacial tension associated to the boundary of different phases. However, cellular surface tension corresponds to a mechanical tension in a thin layer of a biopolymer network at the outermost surface of cells. The tension in this network is generated by active processes and is based on the non-equilibrium nature of this living system. I will explain concepts and data of how cells generate this active surface tension. Furthermore, I will give examples of how cells use this actively regulated surface tension in biological processes such as cell division and tissue morphogenesis.