

# **Superfluid Helium-3: Universal concepts for condensed matter and the big bang**

Prof. Dieter Vollhardt

*Center for Electronic Correlations and Magnetism, University of Augsburg*

Since their discovery in 1971 the superfluid phases of Helium-3 have proved to be the ideal testing ground for many fundamental concepts of modern physics. Phenomena such as anisotropic Cooper pairing, p-wave states, chirality, macroscopic quantum coherence, spontaneous breaking of high symmetries, and exotic topological defects are not only an important enrichment of the physics of condensed matter, but also provide important links to particle physics, defect formation in the early universe and, most recently, quantum turbulence. I will present an introduction into the physics of superfluid Helium-3 and describe the progress made in this fascinating field of basic research.