LMU LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN

ARNOLD SOMMERFELD CENTER FOR THEORETICAL PHYSICS

Arnold Sommerfeld Lecture Series

Professor Eugene Demler

ETH Zürich

Public Lecture:

New colors of light

It is commonly recognized that scientific discoveries result in new technologies. In this talk we will discuss the reverse: behind every conceptual breakthrough lies some technological advance. To illustrate this point, we will review how modern progress in optical technologies is revolutionizing our understanding of quantum matter. We will discuss experiments that showed that we can optically control materials, and even suggest light-induced superconductivity. We'll delve into a new type of magnetism, discovered in layered materials using sensitive light reflection experiments rather than measurements of magnetization. We'll cover how we can use optical lattices with tunable geometries to create several paradigmatic models of electron systems and shed light onto their puzzling properties. We will finally discuss why understanding technology is important for theoretical physicists.

Tuesday, April 16, 2024, 17:15 h, Room B052, Theresienstr. 39, LMU

Fabian Grusdt and Uli Schollwöck