



In the Dynamic Quantum Materials Laboratory we generate materials with properties that can be manipulated on a femtosecond time scale. By **driving solids with intense ultrashort laser pulses**, we directly address collective modes and operate at the fundamental timescales governing the dynamics in a material. These light-matter hybrids with tunable properties opens up new ways to understand **how order forms in a quantum many-body system**.

Our research lies at the **interface of quantum science, ultrafast laser optics and materials engineering**. Students engaged in this interdisciplinary work will benefit from collaborations with world-leading experimental and theory groups at EPFL and beyond, the Center for Quantum Science & Engineering, the Lausanne Center for Ultrafast Science and the Center of Micro-NanoTechnology.

The PhD position, supervised by Professor **Gregor Jotzu**, aims at exploring the light-induced control of quantum magnets and their phase transitions, ultrafast dynamics of superconductors, and unconventional non-equilibrium topological phases. Experimental tasks encompass generating strong mid-infrared and THz laser pulses, as well as establishing detection techniques including ultrafast optical spectroscopy and novel magnetometry in a cryogenic environment.

Candidates should be highly motivated for **cutting-edge experimental research**, demonstrating both teamwork and independent initiative. A solid background in physics or materials, especially optics, quantum and solid state physics, is important. Lab experience would be advantageous, particularly in areas like laser optics, cryogenics, material characterization, data acquisition or experiment control. Effective communication in English and programming skills are also beneficial. However, the key requirement is a willingness to learn and engage in challenging research.

Please send your application to [dqml.app@listes.epfl.ch](mailto:dqml.app@listes.epfl.ch) including a comprehensive CV detailing relevant skills, transcripts (including Bachelor's), and contact details for at least two potential referees. Briefly explain your interest in this specific research direction.