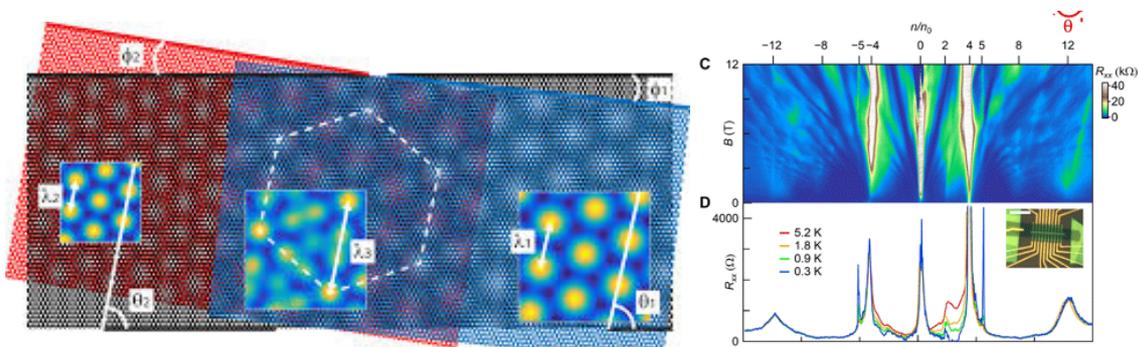


Laboratory of Quantum Physics: Topology and Correlations

PhD positions in van der Waals twistrionics to study strongly correlated phases

2 PhD position is available at the Laboratory of Quantum Physics, Topology and Correlations at EPFL (Lausanne, Switzerland) headed by Prof. Mitali Banerjee. The positions are related to quantum transport properties of 2D materials and funded by recently awarded prestigious SNF Eccellenza grant.

Our group has at its disposal two van der Waals transfer assemblies, one of them is fully automatic and functional inside a glovebox, one high-resolution optical microscope, He3 and VTI wet Oxford cryostats with 12 T magnet also a 5mK dilution with 16T magnet from Leiden cryogenics. We are also going to have our high-end AFM and a 7mK dry dilution with 9-1-1 axis magnet by the third quarter of the year. We fabricate mesoscopic devices in the state-of-the-art 1500sq m EPFL class 100 cleanroom (cmi.epfl.ch).



The projects involve nanofabrication of devices in van der Waal materials heterostructures, low temperature electrical measurements of conductance, thermal noise etc., data analysis and extensive interactions with other researchers. Aim of project is to study strongly correlated states of matter in moiré suprlattice of homo or hetero bilayers, with a focus on Chern insulator and Quantum anomalous Hall effect and Superconductivity.

We are looking for bright, motivated researcher to join our team. You should have excellent study records in physics or related disciplines up to the level of M.Sc. (awarded or expected soon). Also, excellent students with 4 yrs bachelor's degree with majoring Physics are encouraged to apply. Prior laboratory experience in the fields of mesoscopic physics, nanoelectronics, cryogenics, electronics, circuit design, clean-room techniques, and instrument programming is a plus.

The last date for the application is June 2021.

To apply, please send the following documents as a single pdf file:

- * Letter of motivation
- * CV including publications (if any) and description of skills/previous experience
- * Degree certificates and academic transcripts
- * Contact details of at least two academic advisors (or letters of recommendation, if already available)

Please contact the group leader Prof. Mitali Banerjee (mitali.banerjee@epfl.ch).