

PhD positions in Theoretical Quantum Matter Physics – University of Geneva, Switzerland

The Theory Group for Flat and Strange Quantum Matter at the University of Geneva invites applicants for **two PhD student positions** as part of the project “*Quantum Matter with a Twist – The Interplay of Correlations and Topology in Moiré Materials*”. The intended starting date is September 2023.

The project

In recent years moiré materials have emerged as an exciting platform to systematically study strong correlation quantum matter. In this project, the students will develop theories for strong electron-electron interactions in twisted graphene and transition-metal dichalcogenide (TMD) structures. In particular, the focus will be on the role of charge-transfer and topology and the competition with superconductivity in graphene. For TMDs, the focus will be on (Wigner-)Mott transitions and criticality, and exotic interacting topological phases.

More information on the research done on moiré materials in our group can be found at our website www.loukrademaker.nl

The candidate

- MSc (or an equivalent degree) in Theoretical Physics or Quantum Matter Physics by the starting date
- Excellent spoken and written English
- Engagement and an eagerness to learn

We encourage women, minorities and underrepresented groups to apply.

The position of PhD student in Geneva is a salaried position for four years. The starting salary is CHF 53,646.70 per year before tax. The University of Geneva offers flexible working hours, six weeks of annual leave, and family-friendly working conditions including parental leave. PhD students are expected to participate in teaching activities.

The department

The project will be carried out in the *Theory Group for Flat and Strange Quantum Matter* of Prof. Louk Rademaker, within the Department of Quantum Matter Physics (<https://dqmp.unige.ch/>) of the University of Geneva. The department provides a stimulating environment as it is a major center of quantum matter physics, with regular seminars and discussions. The students will interact with other leading theoretical groups such as those of Prof. Thierry Giamarchi and Prof. Dima Abanin, as well as with experimental groups within the department. The group is also part of the Geneva Quantum Center (<https://gqc.unige.ch/>).

The application process

The application needs to be written in English and submitted via Academicjobsonline with this link: <https://academicprogramsonline.org/ajo/jobs/23878>

The application should contain:

1. A motivation letter.
2. A curriculum vitae.
3. One reference letter from a senior scientist.

Deadline: 31 January 2023