

## **Postdoctoral position in theoretical many-body quantum physics with Rydberg atoms**

We are seeking a highly motivated postdoctoral researcher to work on theoretical aspects related to many-body quantum physics with Rydberg atoms. The position is funded through the project 'Tailored quantum matter for sensing and fundamental physics' (financed by the Baden-Württemberg foundation).

The project goals are the following:

(i) to theoretically investigate the creation and control of stable collective phenomena in open driven many-body quantum systems on Rydberg quantum simulators.

(ii) to support the development of an avalanche detector for photons in the terahertz frequency range, which is based on the collective many-body response near a phase transition on a Rydberg quantum simulator. These experiments will be conducted in the group of Prof. C. Groß at Tübingen.

The research group 'Theoretical Atomic Physics and Synthetic Quantum Systems' ([www.open-quantum-systems.com](http://www.open-quantum-systems.com)) is embedded in the lively environment of the 'Center for Quantum Science' of the University of Tübingen, which includes groups working on cold atoms experiments as well as mathematical and theoretical physics. The successful applicant is expected to actively engage in the activities of the Center and, most importantly, in collaborations with experimental researchers.

Candidates need to have a strong background in theoretical physics, a strong academic record, a demonstrated commitment, and a motivation to work hard.

Applications should include a cover letter (including motivation for applying), a CV (including publication list), a copy of the PhD thesis and transcripts (all collated in a single pdf file). Applicants should also arrange for two recommendation letters. All documents shall be sent to [igor.lesanovsky@uni-tuebingen.de](mailto:igor.lesanovsky@uni-tuebingen.de).

The offered position (E13) will run for at least 2 years. Review of the applications will begin on May 10th, 2021 until the position is filled. The anticipated starting date is in autumn 2021 or later.

For enquiries please send an email to [igor.lesanovsky@uni-tuebingen.de](mailto:igor.lesanovsky@uni-tuebingen.de).