

## Postdoc and PhD positions in theoretical physics: Machine Learning for Quantum Technologies

The theory division at the Max Planck Institute for the Science of Light employs modern machine learning techniques for challenges in quantum technologies and artificial scientific discovery. Several positions (postdoc and PhD) are to be filled starting immediately, in the context of the recently launched Bavarian quantum computing initiative.

Our group has pioneered reinforcement learning approaches to enable a machine to discover from scratch improved quantum error correction strategies, quantum feedback, and quantum circuits, and the goal is to take these approaches to a new level and tackle advanced applications. Collaborations with leading experimental groups worldwide are an important component of our work.

Postdoc positions are initially for a duration of 2 years, with possibility for extension by 1 year, and PhD positions are for 3 years, with a possible extension by 1 year. Postdoc positions are 100% E13 salary level, PhD positions are 75% E13 salary level (TV-L).

We are looking for excellent theoretical scientists to take up postdoctoral or PhD positions in the context of the Munich Quantum Valley research network. The successful candidates will perform research in the domain of machine learning techniques applied to quantum computing (and other quantum technologies), e.g. discovering new quantum feedback and quantum error correction strategies. Prior experience in machine learning is not required but would be considered a plus. Experience in the theoretical description of quantum systems is required.

Please submit your CV, including publication list (for postdoc candidates), to [Gesine.Murphy@mpl.mpg.de](mailto:Gesine.Murphy@mpl.mpg.de), cc [Florian.Marquardt@mpl.mpg.de](mailto:Florian.Marquardt@mpl.mpg.de). Postdoc candidates please have 2 letters of reference sent to the same address as well.

Institute website: <https://mpl.mpg.de>

Theory division website: <https://mpl.mpg.de/divisions/marquardt-division/>

The Max Planck Institute for the Science of Light in Erlangen is a leading international research centre investigating all aspects of light. It has been founded in 2009 by the Max Planck Society.

The Max Planck Society is committed to increasing the number of individuals with disabilities in its workforce and therefore encourages applications from such qualified individuals. Furthermore, the Max Planck Society seeks to increase the number of women in those areas where they are underrepresented and therefore explicitly encourages women to apply. The Max Planck Society strives for gender and diversity equality, welcoming applications from all backgrounds.