

## PhD or Postdoc positions in the Marquardt division

If you are curious about new quantum technologies, come and join us in our explorations at the intersection of nanophysics and quantum optics.

**Machine Learning applied to Physics:** This new field deals with the application of techniques like deep neural networks or reinforcement learning to physics. Examples include the automated search for new quantum error correction strategies or the prediction of wave dynamics and bandstructures with the help of neural networks.

**Cavity Optomechanics:** This exciting field studies the interaction of light and nanomechanical motion, down into the quantum regime. This opens the door towards quantum optomechanical circuits, many-body physics, potential applications in ultrasensitive measurements, quantum information, and fundamental tests of quantum mechanics.

**Quantum electrodynamics and quantum computing in superconducting circuits**

**Topological photonics and phononics**

**Nonequilibrium quantum many-body dynamics (e.g. thermalization of many-body systems)**

## Your profile

Our work has both analytical and numerical components, and in most of the topics we have collaborations with experimentalists. Thus, computer skills and the desire to apply theory to realworld problems are strong advantages. We put particular emphasis on physical understanding.

We have ongoing collaborations with both experimental and theoretical groups all over the world, including at Yale, Ottawa, Caltech and other institutions. The payment and benefits are based on the German TVöD guidelines.

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.

## Your application

Applications should be sent electronically to Prof. Florian Marquardt, but always cc to the team assistant, Ms Gesine Murphy.

The set of documents you should send with your application comprises the following:

**PhD applications:** a CV and the names of two expert references.

**PostDoc applications:** a CV, a list of publications, and the names of two expert references.

We will start reviewing applications immediately but will continue to accept applications until the positions are filled.