MAX PLANCK INSTITUTE
FOR THE SCIENCE OF LIGHT
(/)

THEORY
MARQUARDT DIVISION - JOB OPPORTUNITIES

Junior research group leader position

The Max Planck Institute for the Science of Light is inviting applications for a junior research group leader position in theoretical physics.
Applications should be received electronically until Jan 12, 2021. The starting date can be negotiated (and could be immediate).

The successful candidate has at least two years of research experience after the PhD by the time of the appointment. Young theoretical scientists working in a wide range of topics will be considered, such as quantum information processing, quantum engineering, nonlinear optics, photonic systems, topological photonics, machine learning for physics, light-matter interactions, nanophysics, foundations of physics, nonequilibrium dynamics, modern numerical approaches, and others.

For more information, please visit our detailed **job advertisement (/fileadmin/user_upload/Marquardt_Division/Job_Opportunities/2011_Junior_research_group_leader.pdf)**.

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PhD students and postdocs ... division!

We are currently looking for both PhD students as well as postdoctoral researchers. Join our team at the theory division of the Max Planck Institute for the Science of Light (MPL)!

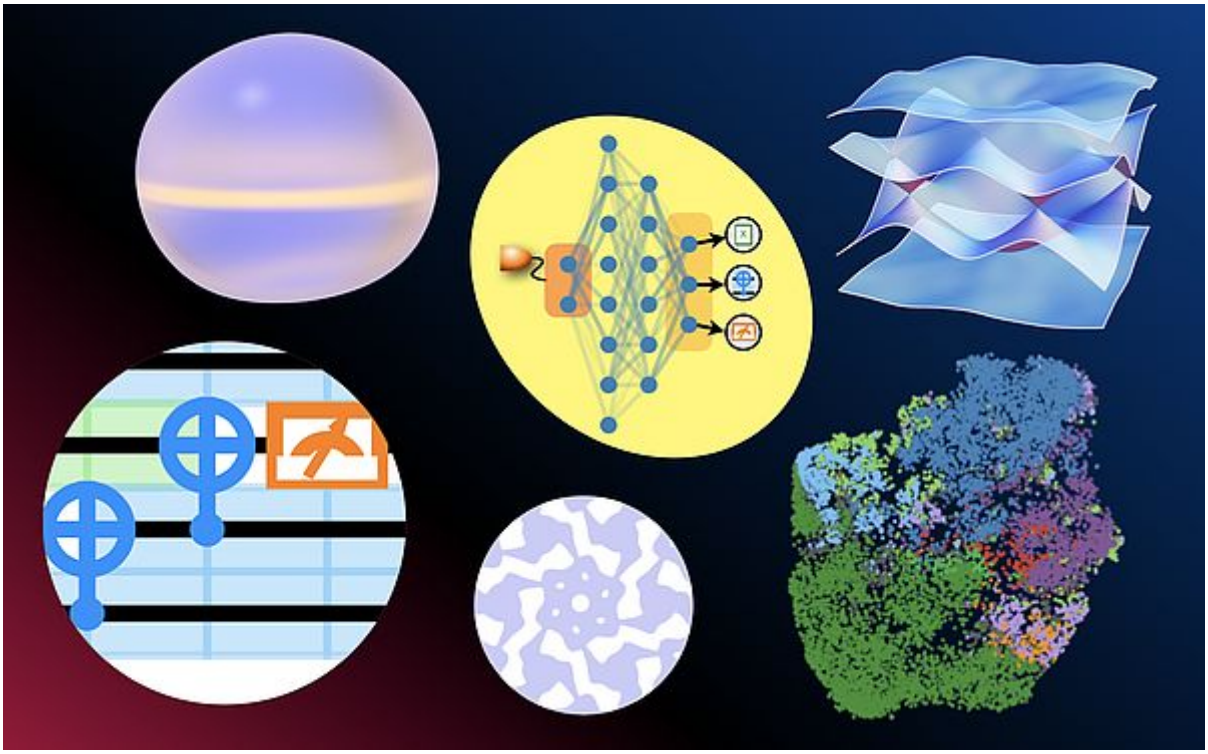
Specifically, we are looking for **PhD students and postdocs** to work on the theory of:

- **quantum cavity optomechanics** and topological transport
- **machine learning** (deep neural networks) applied to physics
- **quantum technologies** including **quantum simulation**

The MPL is a world-leading research institute dedicated to fundamental research on all areas related to the science of light.

We offer competitive salaries and an international research environment at MPL.

If you are a young, highly motivated, creative and excellent theoretical physicist, apply now to join our team!



Opportunities

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If you are curious about new quantum technologies, come and join us in our exploration of 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

Your application

Applications should be sent electronically to **Prof. Florian Marquardt**, but always cc to the team assistant, **Mrs Gesine Murphy** (marquardt-office@mpl.mpg.de).

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.

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MPL Newsletter

Stay up-to-date with MPL's latest research via our Newsletter.

Current issue: **Newsletter No 15 - April 2020**

(/fileadmin/user_upload/Newsletter/Newsletter_MPL_15_2020.pdf)

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MPL Research Centers and Schools

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MAX PLANCK SCHOOL of photonics

(https://www.maxplanckschools.de/de/photonics)

MAX PLANCK - UNIVERSITY OF OTTAWA
Centre for Extreme and Quantum Photonics

(/research-at-mpl/max-planck-uottawa-centre/)