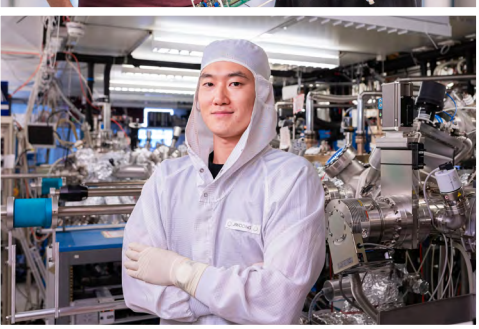

ctd.qmat
Complexity, Topology and Dynamics in Quantum Matter

ctd.qmat – Complexity, Topology and Dynamics in Quantum Matter
Würzburg-Dresden Cluster of Excellence

Early-Career Researchers in Topological Condensed Matter Physics

ctd.qmat is a strategic alliance of two of the world's leading quantum matter research institutions based in Würzburg & Dresden, Germany. Its aims are to develop a systematic understanding of topological phenomena in quantum physics, to find and design materials in which these phenomena can be observed in the laboratory, and to identify and test initial applications of these novel materials.

Applications are invited from doctoral candidates as well as early-career postdocs in the areas of **Electronic Quantum Materials, Quantum Magnetism**, and **Topological Photonics** and **Metamaterials**.

Successful candidates will join a team of around 300 physicists, chemists, and materials scientists from over 30 nations. They will have access to state-of-the-art research infrastructure based in two cities and benefit from a powerful network made up of two universities and five distinguished research institutes of the Max Planck Society, the Helmholtz Association, and the Leibniz Association.

Applications should be submitted to **jobs.ctd.qmat@listserv.dfn.de**, enclosing your CV, a list of publications, and outlining your main interests and proposed field of research. Recruiting will continue until positions are filled. The positions provide comprehensive social security benefits, including health insurance.

Come and join us in Würzburg and Dresden!

Area A

- Electronic quantum materials
- Topological band structures
- Spin-orbit coupling
- Topological superconductivity

Area B

- Highly frustrated magnets
- Interacting topological systems
- Skyrmions and textures
- Intertwined electronic orders

Area C

- Photonic devices
- Topological lasers
- Chiral quantum networks
- Synthetic materials

Methods: Materials synthesis, quantum transport, spectroscopies, extreme conditions, ab-initio electronic structure, field theories, numerics