



Deutscher Akademischer Austauschdienst  
German Academic Exchange Service



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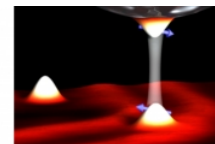
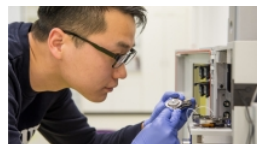
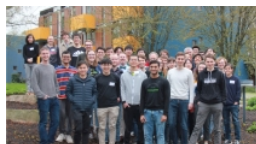
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# Doctorate



## Max Planck Graduate Center for Quantum Materials

Max Planck Institute for Solid State Research • Stuttgart



## Overview

|  |  |
|--|--|
| Degree                                   | Dr rer nat or PhD  |
| Doctoral degree or degree awarded by     | University of Stuttgart or one of the universities at the partner locations  |
| In cooperation with                      | Max Planck Institute for Chemical Physics of Solids and Max Planck Institute for the Physics of Complex Systems in Dresden, Max Planck Institute of Microstructure Physics in Halle, Max Planck Institute for the Structure and Dynamics of Matter in Hamburg, Max Planck Institute for the Science of Light in Erlangen, Fritz Haber Institute of the Max Planck Society in Berlin            |
| Teaching language                        | <ul style="list-style-type: none"><li>English</li></ul>  |
| Languages                                | MPGC-QM courses are held in English.   |
| Programme duration                       | 8 semesters  |
| Beginning                                | Only for doctoral programmes: any time   |
| Application deadline                     | There is one application call per year. More information about the programme, timeline and how to apply can be found at:<br><a href="https://www.quantummaterials.mpg.de/3352/Application">https://www.quantummaterials.mpg.de/3352/Application</a>  |
| Tuition fees per semester in EUR         | None   |
| Combined Master's degree / PhD programme | No   |
| Joint degree / double degree programme   | No   |
| Description/content                      | The overarching goal of the Max Planck Graduate Center for Quantum Materials is to provide its students with comprehensive training in the field of quantum materials. A key feature at the Graduate Center are the high-level "Frontiers of Research" courses, which are closely aligned with research at the Max Planck Institutes. Examples of "Frontiers of Research" in quantum materials |

are superconductivity, synthesis of quantum materials, quantum heterostructures, spin orbitronics, neuromorphic computing, and dynamical control. These courses are typically taught to small groups of students in order to be more interactive than regular coursework.

In order to offset the geographical separation of the participating institutions, students from different locations can benefit from a dedicated network of “immersive” video studios at four participating institutes. The studios will use large screens and state-of-the-art sound technology to simulate personal meetings in a lifelike manner.

The "Frontiers in Research" series and other courses will be complemented by a number of courses which are offered at the participating MPIs and the associated International Max Planck Research Schools (IMPRS). We offer an English-language curriculum comprising lecture courses, a training programme in complementary skills, and summer and winter schools with leading international partner institutions. This ambitious approach will provide our students a unique opportunity to kick-start a successful scientific career.

## Course Details

|  |   |
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| Course organisation                                  | <p>The language of the PhD programme is English. The scientific activities and the close supervision of the student by two fellows constitute the main part of the curriculum. Besides receiving <b>supervision</b> from MPGC-QM fellows, each student has a personal <b>Thesis Advisory Committee</b>. This provides students with further support and advice during the entire duration of the PhD.</p> <p>In addition, the graduate programme is supplemented by <b>scientific seminars</b> and <b>workshops</b> by MPGC-QM fellows and guest researchers organised at irregular time periods and by the <b>professional skills courses</b> as time management, project management, etc.</p> <p>Furthermore, the students can broaden their horizons at PhD retreats and <b>international conferences</b>.</p> |
| International elements                               | <ul style="list-style-type: none"> <li>• International guest lecturers</li> <li>• Training in intercultural skills</li> <li>• Projects with partners in Germany and abroad</li> </ul>   |
| Special promotion / funding of the programme         | <ul style="list-style-type: none"> <li>• Other (e.g. state level)</li> </ul>  |
| Course-specific, integrated German language courses  | Yes   |
| Course-specific, integrated English language courses | Yes   |

## Costs / Funding

|                                  |   |
|----------------------------------|---|
| Tuition fees per semester in EUR | None  |
| Semester contribution            | Depending on the home university, the semester contribution varies between approximately 150 and 350 EUR. |

|  |   |
|--|---|
| Costs of living  | Depending on the city, the living costs vary between 600 and 800 EUR.   |
| Funding opportunities within the university                                    | Yes   |
| Description of the above-mentioned funding opportunities within the university | Depending on the entry degree, you will receive either a working contract (MSc degree) or a stipend (BSc degree) from the home institution (local Max Planck Institute or university). The amount of the salary depends on the location and is sufficient to cover all costs of living. |

## Requirements / Registration

|                                 |   |
|---------------------------------|---|
| Academic admission requirements | <ul style="list-style-type: none"> <li>• Master of Science degree in chemistry, physics, material science or computer science with significant exposure to solid state physics, quantum materials, or a related subject</li> <li>• highly motivated, exceptional students holding (at least) a four-year Honours Bachelor's can also apply for admission</li> <li>• comprehensive CV (maximum of two pages)</li> <li>• letter of motivation</li> <li>• GRE general test or physics or maths subject test (strongly recommended, but not mandatory)</li> <li>• contact information for two referees</li> </ul> |
| Language requirements           | <p><b>You must be fluent in written and spoken English.</b></p> <p>You need to hand in a proof of your proficiency (except native speakers).</p>  |
| Application deadline            | <p>There is one application call per year. More information about the programme, timeline and how to apply can be found at:</p> <p><a href="https://www.quantummaterials.mpg.de/3352/Application">https://www.quantummaterials.mpg.de/3352/Application</a></p>  |
| Submit application to           | <p>During the application phase, the link to our application portal is announced on our website: <a href="https://www.quantummaterials.mpg.de/3352/Application">https://www.quantummaterials.mpg.de/3352/Application</a></p> <p>Only applications submitted via the application portal and before the deadline ends can be considered.</p>  |

## Services

|                                     |  |
|-------------------------------------|--|
| Structured research and supervision | Yes  |
| Research training / discussion      | Yes  |
| Career advisory service             | Beside courses in complementary skills (leadership and application training, proposal writing, etc.), doctoral students can also ask for individual advice and coaching. |
| Support for international           |  |

students and doctoral  
candidates

- Welcome event
- Accompanying programme
- Specialist counselling
- Visa matters

## Our Partners



# Max Planck Institute for Solid State Research

Seven Max Planck Institutes in Germany (Berlin, Dresden, Hamburg, Halle, Erlangen and Stuttgart) participate in the Max Planck Graduate Center for Quantum Materials. All are world-leading institutions in their respective fields, and they operate highly attractive PhD programmes in cooperation with universities both in Germany and abroad. Within the Graduate Center for Quantum Materials, these institutes join forces and further enhance their strong collaboration in research and training of outstanding young scientists.

For more information, please see our website: <https://www.quantummaterials.mpg.de>.



## Contact

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🌐 Course website: <https://www.quantummaterials.mpg.de/>

● <https://twitter.com/MPGCQM>

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# International Programmes in Germany - Database

[www.daad.de/international-programmes](http://www.daad.de/international-programmes)  
[www.daad.de/sommerkurse](http://www.daad.de/sommerkurse)

## Editor

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## GATE-Germany

Consortium for International Higher Education Marketing  
[www.gate-germany.de](http://www.gate-germany.de)

## Disclaimer

The data used for this database was collected and analysed in good faith and with due diligence. The DAAD and the Content5 AG accept no liability for the correctness of the data contained in the "International Programmes in Germany" and "Language and Short Courses in Germany".

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