



# Research in Germany

PHYSICS

AN INITIATIVE OF THE



Federal Ministry  
of Education  
and Research

Research in  
Germany



Land of Ideas



# Research in Germany

## **Imprint**

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PHYSICS

# PREFACE

This brochure provides a first insight into research in Germany in the field of physics and is especially recommended to early career researchers from abroad.

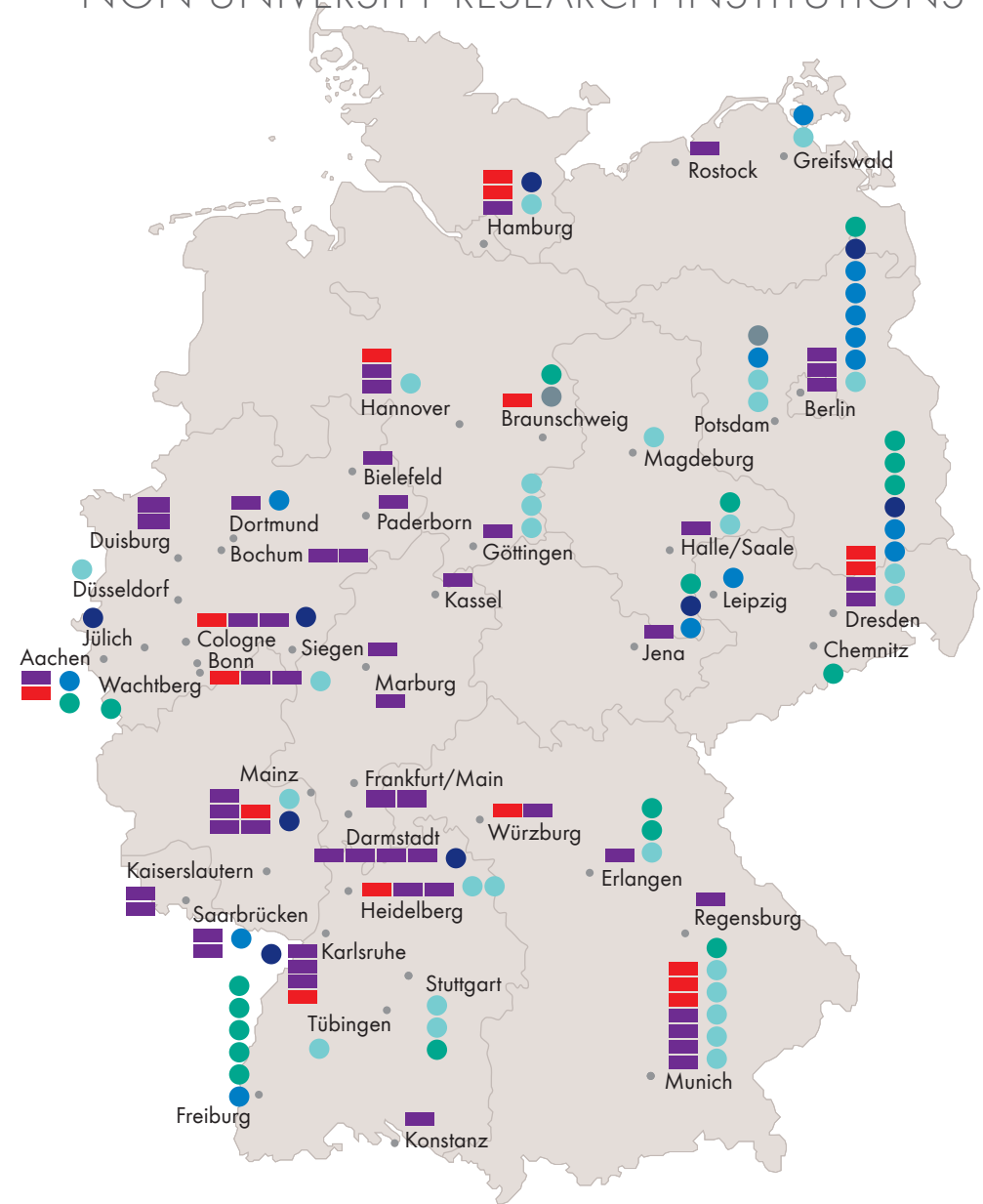
Physics research in Germany is conducted at universities and at non-university research institutions. Almost all universities and many universities of applied sciences host a section in this field. The spectrum ranges from small thematically focused working groups to large scale research facilities and the topics cover the whole scope of physics.

This brochure is intended to give an initial overview. The following maps and tables highlight research consortia and graduate training programmes at universities and non-university research institutes with a main focus on physics.

On top of this, there is a lot more to discover: e.g. the DFG funds a multitude of individual projects in the area of physics. These individual grants outweigh the research consortia both in number and in overall funding volume. Towards the end of this brochure, you will find a link to the online database GEPRIIS that provides an overview of all DFG-funded research projects. You will also find additional important links for further information about programmes in the field of physics and profiles of German universities and research institutions.

We invite you to explore the many opportunities that Germany has to offer and welcome your feedback.

# CENTRES OF RESEARCH/ NON-UNIVERSITY RESEARCH INSTITUTIONS



■ Clusters of Excellence  
■ Collaborative Research Centres/Transregios  
● Fraunhofer Institutes  
● Helmholtz Centres  
● Leibniz Institutes  
● Max Planck Institutes  
● Others

DFG-funded Priority Programmes and Research Units are not shown on the map since they are not necessarily located at a single location; they are listed on pages 17 and 21. The map shows the headquarters of the non-university research institutions.

# CENTRES OF RESEARCH

- FUNDED BY DFG -

**Clusters of Excellence (EXC)** promote cutting-edge research. They serve to strengthen the research profiles of universities or university consortia in internationally competitive fields. They create excellent training and career opportunities for early career researchers. Within the framework of the Excellence Strategy, they can receive between €3 million and €10 million annually and are funded for seven years. A second seven-year period is possible.




**Collaborative Research Centres (CRC)** are organisational units established at universities which enable researchers to pursue an outstanding research programme crossing the boundaries of disciplines, institutes, departments and faculties. The traditional Collaborative Research Centre is generally applied for by one university and is conducted by researchers of that university. Early career support is a key objective of the Collaborative Research Centre Programme. Early career researchers may get involved in a CRC in numerous ways, for example within the framework of an Integrated Research Training Group. Collaborative Research Centres are funded for a period of up to 12 years.

**Transregios (TRR)** are Collaborative Research Centres in which up to three universities collaborate with each other and submit a joint application. The contributions of the cooperative partners are essential, complementary and synergetic to the joint research objective. Funding facilitates close, nationwide collaboration among the participating universities and researchers, as well as networking and shared use of resources. There is also the option of international Transregios.










## CENTRES OF RESEARCH













Location	Institution	Title	Funded Since	Contact
CLUSTERS OF EXCELLENCE				
 Aachen	Rheinisch-Westfälische Technische Hochschule Aachen	<b>Matter and Light for Quantum Computing (ML4Q) (EXC 2004)</b>	2019	<a href="https://ml4q.de">https://ml4q.de</a>
Bonn	Rheinische Friedrich-Wilhelms-Universität Bonn			
Cologne	Universität zu Köln			
 Braunschweig	Technische Universität Braunschweig	<b>Light and Matter at the Quantum Frontier: Foundations and Applications in Metrology (QuantumFrontiers) (EXC 2123)</b>	2019	<a href="https://quantumfrontiers.uni-hannover.de">quantumfrontiers.uni-hannover.de</a>
Hannover	Gottfried Wilhelm Leibniz Universität Hannover			
 Dresden	Technische Universität Dresden	<b>Physics of Life – The Dynamic Organization of Living Matter (PoL) (EXC 2068)</b>	2019	<a href="https://physics-of-life.tu-dresden.de">https://physics-of-life.tu-dresden.de</a>
 Dresden	Technische Universität Dresden	<b>Complexity and Topology in Quantum Matter: Fundamental Concepts, Materials Design, and Novel Technologies (Ct.qmat) (EXC 2147)</b>	2019	<a href="https://www.ctqmat.de">www.ctqmat.de</a>
Würzburg	Julius-Maximilians-Universität Würzburg			
 Hamburg	Universität Hamburg	<b>Advanced Imaging of Matter: Structure, Dynamics and Control on the Atomic Scale (AIM) (EXC 2056)</b>	2019	<a href="https://www.cui.uni-hamburg.de">www.cui.uni-hamburg.de</a>
 Hamburg	Universität Hamburg	<b>Quantum Universe (EXC 2121)</b>	2019	<a href="https://www.qu.uni-hamburg.de">www.qu.uni-hamburg.de</a>
 Heidelberg	Ruprecht-Karls-Universität Heidelberg	<b>STRUCTURES: A Unifying Approach to Emergent Phenomena in the Physical World, Mathematics, and Complex Data (EXC 2181)</b>	2019	<a href="https://www.itphys.uni-heidelberg.de/~structures/">www.itphys.uni-heidelberg.de/~structures/</a>
 Karlsruhe	Karlsruher Institut für Technologie	<b>3D Matter Made to Order (3DMM2O) (EXC 2082)</b>	2019	<a href="https://www.3dmattermade.toorder.kit.edu">www.3dmattermade.toorder.kit.edu</a>
 Mainz	Johannes Gutenberg-Universität Mainz	<b>Precision Physics, Fundamental Interactions and Structure of Matter (PRISMA+) (EXC 2118)</b>	2019	<a href="https://www.prisma.uni-mainz.de">www.prisma.uni-mainz.de</a>

## CENTRES OF RESEARCH

Location	Institution	Title	Funded Since	Contact
 Munich	Ludwig-Maximilians-Universität München	<b>Munich Center for Quantum Science and Technology (MQST) (EXC 2111)</b>	2019	<a href="http://www.mcqst.de">www.mcqst.de</a>
 Munich	Ludwig-Maximilians-Universität München  Technische Universität München	<b>ORIGINS: From the Origin of the Universe to the First Building Blocks of Life (EXC 2094)</b>	2019	<a href="http://www.origins-cluster.de">www.origins-cluster.de</a>
 Munich	Technische Universität München	<b>e-conversion (EXC 2089)</b>	2019	<a href="http://www.e-conversion.de">www.e-conversion.de</a>

## COLLABORATIVE RESEARCH CENTRES

 Berlin	Humboldt-Universität zu Berlin	<b>Hybrid Inorganic/Organic Systems for Opto-Electronics (HIOS) (CRC 951)</b>	2011	<a href="http://www.physik.hu-berlin.de/de/sfb951">www.physik.hu-berlin.de/de/sfb951</a>
 Bochum	Ruhr-Universität Bochum	<b>Transient Atmospheric Plasmas – from Plasmas to Liquids to Solids (CRC 1316)</b>	2017	<a href="http://sfb1316.rub.de">http://sfb1316.rub.de</a>
 Bochum	Ruhr-Universität Bochum	<b>Cosmic Interacting Matters – From Source to Signal (CRC 1491)</b>	2022	<a href="http://www.sfb1491.ruhr-uni-bochum.de">www.sfb1491.ruhr-uni-bochum.de</a>
 Cologne	Universität zu Köln	<b>Control and Dynamics of Quantum Materials (CRC 1238)</b>	2016	<a href="http://crc1238.uni-koeln.de/">http://crc1238.uni-koeln.de/</a>
 Darmstadt	Technische Universität Darmstadt	<b>Nuclei: From Fundamental Interactions to Structure and Stars (CRC 1245)</b>	2015	<a href="http://www.sfb1245.tu-darmstadt.de">www.sfb1245.tu-darmstadt.de</a>
 Dresden	Technische Universität Dresden	<b>Chemistry of Synthetic Two-Dimensional Materials (CRC 1415)</b>	2020	<a href="https://tu-dresden.de/mn/chemie/sfb1415">https://tu-dresden.de/mn/chemie/sfb1415</a>
 Dresden	Technische Universität Dresden	<b>Correlated Magnetism: From Frustration to Topology (CRC 1143)</b>	2014	<a href="https://tu-dresden.de/mn/physik/sfb1143/der-sfb">https://tu-dresden.de/mn/physik/sfb1143/der-sfb</a>
 Duisburg	Universität Duisburg-Essen	<b>Non-Equilibrium Dynamics of Condensed Matter in the Time Domain (CRC 1242)</b>	2016	<a href="http://www.uni-due.de/sfb1242">www.uni-due.de/sfb1242</a>
 Göttingen	Georg-August-Universität Göttingen	<b>Atomic Scale Control of Energy Conversion (CRC 1073)</b>	2013	<a href="http://www.uni-goettingen.de/en/437142.html">www.uni-goettingen.de/en/437142.html</a>

Location	Institution	Title	Funded Since	Contact
 Hamburg	Universität Hamburg	<b>Light Induced Dynamics and Control of Correlated Quantum Systems (CRC 925)</b>	2011	<a href="http://www.physik.uni-hamburg.de/en/sfb925.html">www.physik.uni-hamburg.de/en/sfb925.html</a>
 Hannover	Gottfried Wilhelm Leibniz Universität Hannover	<b>Designed Quantum States of Matter (DQ-mat) (CRC 1227)</b>	2016	<a href="http://www.dq-mat.uni-hannover.de">www.dq-mat.uni-hannover.de</a>
 Hannover	Gottfried Wilhelm Leibniz Universität Hannover	<b>Relativistic and Quantum-based Geodesy (TerraQ) (CRC 1464)</b>	2020	<a href="http://www.terraq.uni-hannover.de/der-sfb/">www.terraq.uni-hannover.de/der-sfb/</a>
 Heidelberg	Ruprecht-Karls-Universität Heidelberg	<b>Isolated Quantum Systems and Universality in Extreme Conditions (ISOQUANT) (CRC 1225)</b>	2016	<a href="http://isoquant.uni-heidelberg.de">http://isoquant.uni-heidelberg.de</a>
 Heidelberg	Ruprecht-Karls-Universität Heidelberg	<b>The Milky Way System (CRC 881)</b>	2010	<a href="http://sfb881.zah.uni-heidelberg.de">http://sfb881.zah.uni-heidelberg.de</a>
 Jena	Friedrich-Schiller-Universität Jena	<b>Nonlinear Optics down to Atomic Scales (NOA) (CRC 1375)</b>	2019	<a href="http://www.noa.uni-jena.de">www.noa.uni-jena.de</a>
 Karlsruhe	Karlsruher Institut für Technologie	<b>Wave Phenomena: Analysis and Numerics (CRC 1173)</b>	2015	<a href="http://www.waves.kit.edu">www.waves.kit.edu</a>
 Kassel	Universität Kassel	<b>Extreme Light for Sensing and Driving Molecular Chirality (ELCH) (CRC 1319)</b>	2018	<a href="http://www.uni-kassel.de/forschung/en/sfb/crc-1319-elch">www.uni-kassel.de/forschung/en/sfb/crc-1319-elch</a>
 Konstanz	Universität Konstanz	<b>Fluctuations and Nonlinearities in Classical and Quantum Matter beyond Equilibrium (CRC 1432)</b>	2021	<a href="http://www.sfb1432.uni-konstanz.de">www.sfb1432.uni-konstanz.de</a>
 Marburg	Philipps-Universität Marburg	<b>Structure and Dynamics of Internal Interfaces (CRC 1083)</b>	2013	<a href="http://www.uni-marburg.de/sfb1083">www.uni-marburg.de/sfb1083</a>
 Munich	Ludwig-Maximilians-Universität München	<b>Nanoagents for the Spatiotemporal Control of Molecular and Cellular Reactions (CRC 1032)</b>	2012	<a href="http://www.sfb1032.physik.uni-muenchen.de">www.sfb1032.physik.uni-muenchen.de</a>
 Munich	Technische Universität München	<b>Neutrinos and Dark Matter in Astro- and Particle Physics (NDM) (CRC 1258)</b>	2016	<a href="http://www.sfb1258.de">www.sfb1258.de</a>

## CENTRES OF RESEARCH

Location	Institution	Title	Funded Since	Contact
Regensburg	Universität Regensburg	<b>Emergent Relativistic Effects in Condensed Matter: From Fundamental Aspects to Electronic Functionality (CRC 1277)</b>	2017	<a href="http://www.sfb1277-regensburg.de">www.sfb1277-regensburg.de</a>
Rostock	Universität Rostock	<b>Light-Matter Interactions at Interfaces (LiMatI) (CRC 1477)</b>	2022	<a href="https://gepris.dfg.de/gepris/projekt/441234705">https://gepris.dfg.de/gepris/projekt/441234705</a>
Saarbrücken	Universität des Saarlandes	<b>Physical Modeling of Non-Equilibrium Processes in Biological Systems (CRC 1027)</b>	2012	<a href="http://www.sfb1027.uni-saarland.de">www.sfb1027.uni-saarland.de</a>
Würzburg	Julius-Maximilians-Universität Würzburg	<b>Topological and Correlated Electronics at Surfaces and Interfaces (ToCoTronics) (CRC 1170)</b>	2015	<a href="http://www.physik.uni-wuerzburg.de/sfb1170">www.physik.uni-wuerzburg.de/sfb1170</a>

## COLLABORATIVE RESEARCH CENTRES/TRANSREGIOS

Aachen	Rheinisch-Westfälische Technische Hochschule Aachen	<b>Particle Physics Phenomenology after the Higgs Discovery (P3H) (TRR 257)</b>	2019	<a href="https://p3h.particle.kit.edu">https://p3h.particle.kit.edu</a>
Karlsruhe	Karlsruher Institut für Technologie			
Siegen	Universität Siegen			
Berlin Cologne	Freie Universität Berlin Universität zu Köln	<b>Entangled States of Matter (TRR 183)</b>	2016	<a href="http://crc183.uni-koeln.de">http://crc183.uni-koeln.de</a>
Berlin Halle/Saale	Freie Universität Berlin Martin-Luther-Universität Halle-Wittenberg	<b>Ultrafast Spin Dynamics (TRR 227)</b>	2017	<a href="http://www.trr227.de">www.trr227.de</a>

Location	Institution	Title	Funded Since	Contact
Bielefeld Darmstadt	Universität Bielefeld Technische Universität Darmstadt	<b>Strong-Interaction Matter Under Extreme Conditions (TRR 211)</b>	2017	<a href="https://th.physik.uni-frankfurt.de/~strongmatter">https://th.physik.uni-frankfurt.de/~strongmatter</a>
Frankfurt/Main	Goethe-Universität Frankfurt am Main			
Bonn	Rheinische Friedrich-Wilhelms-Universität Bonn	<b>Open System Control of Atomic and Photonic Matter (OSCAR) (TRR 185)</b>	2016	<a href="http://www.physik.uni-kl.de/oscar">www.physik.uni-kl.de/oscar</a>
Kaiserslautern	Technische Universität Kaiserslautern			
Bonn	Rheinische Friedrich-Wilhelms-Universität Bonn	<b>Symmetries and the Emergence of Structure in QCD (TRR 110)</b>	2012	<a href="http://crc110.hiskp.uni-bonn.de">http://crc110.hiskp.uni-bonn.de</a>
Munich Beijing (China)	Technische Universität München Peking University			
Darmstadt Mainz	Technische Universität Darmstadt Johannes Gutenberg-Universität Mainz	<b>Multiscale Simulation Methods for Soft Matter Systems (TRR 146)</b>	2014	<a href="http://trr146.de">http://trr146.de</a>
Darmstadt Duisburg	Technische Universität Darmstadt Universität Duisburg-Essen			
Darmstadt Duisburg	Technische Universität Darmstadt Universität Duisburg-Essen	<b>Hysteresis Design of Magnetic Materials for Efficient Energy Conversion: HoMMage (TRR 270)</b>	2020	<a href="http://www.tu-darmstadt.de/sfb270/about_crc/index.en.jsp">www.tu-darmstadt.de/sfb270/about_crc/index.en.jsp</a>
Dortmund Paderborn	Technische Universität Dortmund Universität Paderborn	<b>Tailored Nonlinear Photonics: From Fundamental Concepts to Functional Structures (TRR 142)</b>	2013	<a href="http://trr142.uni-paderborn.de">http://trr142.uni-paderborn.de</a>

Location	Institution	Title	Funded Since	Contact
<p>■ Erlangen</p> <p>Mainz</p> <p>Saarbrücken</p>	<p>Friedrich-Alexander-Universität Erlangen-Nürnberg</p> <p>Johannes Gutenberg-Universität Mainz</p> <p>Universität des Saarlandes</p>	<p><b>Quantum Cooperativity of Light and Matter – QuCoLiMa (TRR 306)</b></p>	2021	<p><a href="http://www.qucolima.de">www.qucolima.de</a></p>
<p>■ Frankfurt/Main</p> <p>Karlsruhe</p> <p>Mainz</p>	<p>Goethe-Universität Frankfurt am Main</p> <p>Karlsruher Institut für Technologie</p> <p>Johannes Gutenberg-Universität Mainz</p>	<p><b>Elastic Tuning and Response of Electronic Quantum Phases of Matter (ELASTO-Q-MAT) (TRR 288)</b></p>	2020	<p><a href="https://transregio288.org">https://transregio288.org</a></p>
<p>■ Kaiserslautern</p> <p>Mainz</p>	<p>Technische Universität Kaiserslautern</p> <p>Johannes Gutenberg-Universität Mainz</p>	<p><b>Spin+X – Spin in its Collective Environment (TRR 173)</b></p>	2015	<p><a href="http://www.uni-kl.de/trr173">www.uni-kl.de/trr173</a></p>
<p>■ Munich</p>	<p>Ludwig-Maximilians-Universität München</p> <p>Technische Universität München</p>	<p><b>Emergence of Life – Exploring Mechanisms with Cross-Disiplinary Experiments (TRR 235)</b></p>	2018	<p><a href="http://www.emergence-of-life.de">www.emergence-of-life.de</a></p>





## RESEARCH UNITS

-FUNDED BY DFG-

**Research Units (FOR)** often contribute to establishing new research directions. Research Units are made up of a team of researchers working together on a research project which is often of an interdisciplinary nature. Research Units consist of several researchers and subprojects. The subprojects of a Research Unit are often located at several locations throughout Germany. Research Units are generally funded for up to six years.

Research Units are not shown on the map. Only the titles of the thematic focus and the project websites are listed.



## RESEARCH UNITS

Title	Funded Since	Contact
Printed & Stable Organic Photovoltaics from Non-Fullerene Acceptors (POPULAR) (FOR 5387)	2023	<a href="http://www.tu-chemnitz.de/physik/OPKM/3p.de/index.php">www.tu-chemnitz.de/physik/OPKM/3p.de/index.php</a>
Long-Range Interacting Quantum Spin Systems out of Equilibrium: Experiment, Theory and Mathematics (FOR 5413)	2022	<a href="https://uni-tuebingen.de/center-for-quantum-science/for-5413">https://uni-tuebingen.de/center-for-quantum-science/for-5413</a>
Future Methods for Studying Confined Gluons in QCD (FOR 5269)	2021	<a href="https://gepris.dfg.de/gepris/projekt/451886959">https://gepris.dfg.de/gepris/projekt/451886959</a>
Quantitative Spatio-Temporal Model-Building for Correlated Electronic Matter (FOR 5249)	2021	<a href="https://for5249.org">https://for5249.org</a>
Proximity-Induced Correlation Effects in Low Dimensional Systems (FOR 5242)	2021	<a href="http://www.epigraphene.de">www.epigraphene.de</a>
Searching for Charged Lepton Flavour Violation with the Mu3e Experiment (FOR 5199)	2021	<a href="https://gepris.dfg.de/gepris/projekt/443478861">https://gepris.dfg.de/gepris/projekt/443478861</a>
Relativistic Jets in Active Galaxies (FOR 5195)	2021	<a href="https://gepris.dfg.de/gepris/projekt/443220636">https://gepris.dfg.de/gepris/projekt/443220636</a>
The eROSITA View of Stellar Endpoints (eRO-STEP) (FOR 2990)	2021	<a href="http://www.ero-step.de">www.ero-step.de</a>
Periodic Low-Dimensional Defect Structures in Polar Oxides (FOR 5044)	2020	<a href="https://gepris.dfg.de/gepris/projekt/426703838">https://gepris.dfg.de/gepris/projekt/426703838</a>
Reducing Complexity of Nonequilibrium Systems (FOR 5099)	2020	<a href="http://www.for5099.uni-freiburg.de">www.for5099.uni-freiburg.de</a>
Next Generation Perturbative QCD for Hadron Structure: Preparing for the Electron-Ion Collider (FOR 2926)	2019	<a href="http://www.physik.uni-regensburg.de/for2926/index.html">http://www.physik.uni-regensburg.de/for2926/index.html</a>
Copper Iodide as Multifunctional Semiconductor (FOR 2857)	2019	<a href="https://research.uni-leipzig.de/for2857/index.htm">https://research.uni-leipzig.de/for2857/index.htm</a>
Probing the Quantum Vacuum at the High-Intensity Frontier (FOR 2783)	2019	<a href="http://www.quantumvacuum.org/">www.quantumvacuum.org/</a>
Thermal Machines in the Quantum World (FOR 2724)	2018	<a href="http://www.quantumthermo.de/">www.quantumthermo.de/</a>
Fundamental Aspects of Statistical Mechanics and the Emergence of Thermodynamics in Non-Equilibrium Systems (FOR 2692)	2017	<a href="http://www.for2692.uni-osnabrueck.de">www.for2692.uni-osnabrueck.de</a>
Planet Formation Witnesses and Probes: Transition Discs (FOR 2634)	2017	<a href="http://www.transitiondiscs.com/">www.transitiondiscs.com/</a>
Blue Planets around Red Stars (FOR 2544)	2017	<a href="http://www.uni-goettingen.de/de/575252.html">www.uni-goettingen.de/de/575252.html</a>
Matter Under Planetary Interior Conditions – High-Pressure, Planetary and Plasma Physics (FOR 2440)	2016	<a href="http://www.for2440.uni-rostock.de">www.for2440.uni-rostock.de</a>
Artificial Gauge Fields and Interacting Topological Phases in Ultracold Atoms (FOR 2414)	2016	<a href="http://www.for2414.de">www.for2414.de</a>

RESEARCH UNITS

Title	Funded Since	Contact
From Few to Many-Body Physics with Dipolar Quantum Gases (FOR 2247)	2016	<a href="http://www.for2247.uni-hannover.de">www.for2247.uni-hannover.de</a>
Correlations in Integrable Quantum Many-Body Systems (FOR 2316)	2015	<a href="http://for2316.uni-wuppertal.de/doku.php">http://for2316.uni-wuppertal.de/doku.php</a>
Debris Disks in Planetary Systems (FOR 2285)	2015	<a href="http://www.astro.uni-jena.de/FOR2285">www.astro.uni-jena.de/FOR2285</a>



# PRIORITY PROGRAMMES

- FUNDED BY DFG -

**Priority Programmes (SPP)** have a programmatic focus and the purpose of advancing knowledge in an emerging field of research through collaborative networked support. They are characterised by their enhanced quality of research through the use of new methods and forms of collaboration in emerging fields. As a rule, one programme can consist of up to 30 individual subprojects located at several institutions across Germany; it usually has one coordinating person. Priority Programmes normally receive funding for a period of six years. Only the titles of the overall themes and the project website are listed.

## PRIORITY PROGRAMMES

Title	Funded Since	Contact
2D Materials – Physics of van der Waals [Hetero]Structures (2DMP) (SPP 2244)	2020	<a href="https://2dmp.tu-dresden.de/">https://2dmp.tu-dresden.de/</a>
Perovskite Semiconductors: From Fundamental Properties to Devices (SPP 2196)	2019	<a href="http://www.perovskite-spp.uni-konstanz.de/spp-2196">www.perovskite-spp.uni-konstanz.de/spp-2196</a>
Dynamic Wetting of Flexible, Adaptive and Switchable Surfaces (SPP 2171)	2019	<a href="http://www.uni-muenster.de/SPP2171/index.html">www.uni-muenster.de/SPP2171/index.html</a>
Skymionics: Topological Spin Phenomena in Real-Space for Applications (SPP 2137)	2017	<a href="http://www.skymionics.ph.tum.de">www.skymionics.ph.tum.de</a>
Exploring the Diversity of Extrasolar Planets (SPP 1992)	2017	<a href="http://www-astro.physik.tu-berlin.de/exoplanet-diversity">www-astro.physik.tu-berlin.de/exoplanet-diversity</a>
Giant Interactions in Rydberg Systems (GiRyd) (SPP 1929)	2016	<a href="http://www.giryd.de">www.giryd.de</a>



**Fraunhofer Society** is one of the world's leading organisations for applied research with an annual research budget of 2.9 billion euros, 76 institutes and more than 30,000 employees. Fraunhofer's R&D portfolio covers a wide range of fields, including health, security, communications, transport, energy and the environment. [www.fraunhofer.de](http://www.fraunhofer.de)

**The Helmholtz Association** contributes to solving major challenges facing society, science and industry with world-level research in six areas: energy, earth and environment, health, key technologies, structure of matter and aeronautics, space and transport. With more than 43,000 employees in 18 research centres and an annual budget of approximately 6 billion euros, the Helmholtz Association is Germany's largest scientific organisation. [www.helmholtz.de](http://www.helmholtz.de)

**The Leibniz Association** is an umbrella organisation of 97 research institutes. The annual budget amounts to 2 billion euros. Some 11,500 researchers – approximately 25% of them from abroad – work on a widely diverse range of subjects, including the humanities and social sciences, economics, spatial and life sciences, mathematics, natural and engineering sciences and environmental research. [www.leibniz-association.eu](http://www.leibniz-association.eu)

**The Max Planck Society** for the Advancement of Science is one of Germany's largest independent non-profit research organisations. The Max Planck Society has been allocated approximately 1.92 billion euros for 2022. A combined total of 15,300 researchers, postdoctoral/junior researchers and visiting researchers at 86 Max Planck Institutes conduct basic research in the natural sciences, life sciences, social sciences and humanities. One third of the researchers and more than half of the junior and visiting researchers come from abroad. [www.mpg.de](http://www.mpg.de)

Location	Institution	Contact
<b>FRAUNHOFER INSTITUTES</b>		
● Aachen	Fraunhofer Institute for Laser Technology (ILT)	<a href="http://www.ilt.fraunhofer.de">www.ilt.fraunhofer.de</a>
● Berlin	Fraunhofer Institute for Telecommunications, Heinrich Hertz Institute (HHI)	<a href="http://www.hhi.fraunhofer.de">www.hhi.fraunhofer.de</a>
● Braunschweig	Fraunhofer Institute for Surface Engineering and Thin Films (IST)	<a href="http://www.ist.fraunhofer.de">www.ist.fraunhofer.de</a>
● Chemnitz	Fraunhofer Institute for Electronic Nano Systems (ENAS)	<a href="http://www.enas.fraunhofer.de">www.enas.fraunhofer.de</a>
● Dresden	Fraunhofer Institute for Material and Beam Technology (IWS)	<a href="http://www.iws.fraunhofer.de">www.iws.fraunhofer.de</a>
● Dresden	Fraunhofer Institute for Organic Electronics, Electron Beam and Plasma Technology (FEP)	<a href="http://www.fep.fraunhofer.de">www.fep.fraunhofer.de</a>
● Dresden	Fraunhofer Institute for Photonic Microsystems (IPMS)	<a href="http://www.ipms.fraunhofer.de">www.ipms.fraunhofer.de</a>
● Erlangen	Fraunhofer Institute for Integrated Circuits (IIS)	<a href="http://www.iis.fraunhofer.de">www.iis.fraunhofer.de</a>
● Erlangen	Fraunhofer Institute for Integrated Systems and Device Technology (IISB)	<a href="http://www.iisb.fraunhofer.de">www.iisb.fraunhofer.de</a>
● Freiburg	Fraunhofer Institute for Applied Solid State Physics (IAF)	<a href="http://www.iaf.fraunhofer.de">www.iaf.fraunhofer.de</a>
● Freiburg	Fraunhofer Institute for High-Speed Dynamics, Ernst-Mach-Institut (EMI)	<a href="http://www.emi.fraunhofer.de">www.emi.fraunhofer.de</a>
● Freiburg	Fraunhofer Institute for Physical Measurement Techniques (IPM)	<a href="http://www.ipm.fraunhofer.de">www.ipm.fraunhofer.de</a>
● Freiburg	Fraunhofer Institute for Solar Energy Systems (ISE)	<a href="http://www.ise.fraunhofer.de">www.ise.fraunhofer.de</a>
● Freiburg Halle/Saale	Fraunhofer Institute for Mechanics of Materials (IWM)	<a href="http://www.iwm.fraunhofer.de">www.iwm.fraunhofer.de</a>
● Jena	Fraunhofer Institute for Applied Optics and Precision Engineering (IOF)	<a href="http://www.iof.fraunhofer.de">www.iof.fraunhofer.de</a>
● Munich	Fraunhofer Research Institution for Microsystems and Solid State Technologies (EMFT)	<a href="http://www.emft.fraunhofer.de">www.emft.fraunhofer.de</a>
● Stuttgart	Fraunhofer Institute for Building Physics (IBP)	<a href="http://www.ibp.fraunhofer.de">www.ibp.fraunhofer.de</a>
● Wachtberg	Fraunhofer Institute for High Frequency Physics and Radar Techniques (FHR)	<a href="http://www.fhr.fraunhofer.de">www.fhr.fraunhofer.de</a>
<b>HELMHOLTZ CENTRES</b>		
● Berlin	Helmholtz-Zentrum Berlin für Materialien und Energie (HZB)	<a href="http://www.helmholtz-berlin.de">www.helmholtz-berlin.de</a>
● Cologne	German Aerospace Center (DLR)	<a href="http://www.dlr.de">www.dlr.de</a>
● Darmstadt	GSI Helmholtzzentrum für Schwerionenforschung	<a href="http://www.gsi.de">www.gsi.de</a>
● Dresden-Rossendorf	Helmholtz-Zentrum Dresden-Rossendorf (HZDR)	<a href="http://www.hzdr.de">www.hzdr.de</a>
● Hamburg	Deutsches Elektronen-Synchrotron (DESY)	<a href="http://www.desy.de">www.desy.de</a>
● Jena	Helmholtz Institute Jena	<a href="http://www.hi-jena.de">www.hi-jena.de</a>

NON-UNIVERSITY RESEARCH INSTITUTIONS

Location	Institution	Contact
● Jülich	Forschungszentrum Jülich (FZ Jülich)	www.fz-juelich.de
● Karlsruhe	Karlsruhe Institute of Technology (KIT)	www.kit.edu
● Mainz	Helmholtz Institute Mainz (HIM)	www.hi-mainz.de
LEIBNIZ INSTITUTES		
● Aachen	DWI – Leibniz Institute for Interactive Materials	www.dwi.rwth-aachen.de
● Berlin	Ferdinand-Braun-Institut, Leibniz-Institut für Höchstfrequenztechnik (FBH)	www.fbh-berlin.com
● Berlin	Leibniz Institute for Crystal Growth (IKZ)	www.ikz-berlin.de
● Berlin	Max Born Institute for Nonlinear Optics and Short Pulse Spectroscopy im Forschungsverbund Berlin (MBI)	www.mbi-berlin.de
● Berlin	Paul-Drude-Institut für Festkörperelektronik (PDI)	www.pdi-berlin.de
● Berlin Dortmund	Leibniz-Institut für Analytische Wissenschaften (ISAS)	www.isas.de
● Dresden	Leibniz Institute of Polymer Research Dresden (IPF)	www.ipfdd.de
● Dresden	Leibniz Institute for Solid State and Materials Research Dresden (IFW)	www.ifw-dresden.de
● Freiburg	Kiepenheuer Institute for Solar Physics (KIS)	www.leibniz-kis.de
● Greifswald	Leibniz Institute for Plasma Science and Technology (INP Greifswald)	www.inp-greifswald.de
● Jena	Institute of Photonic Technology (IPHT)	www.leibniz-ipht.de
● Leipzig	Leibniz Institute for Surface Modification (IOM)	www.iom-leipzig.de
● Potsdam	Leibniz Institute for Astrophysics Potsdam (AIP)	www.aip.de
● Saarbrücken	Leibniz Institute for New Materials (INM)	www.leibniz-inm.de
MAX PLANCK INSTITUTES		
● Berlin	Fritz Haber Institute of the Max Planck Society (FHI-Berlin)	www.fhi.mpg.de
● Bonn	Max Planck Institute for Radio Astronomy (MPIfR)	www.mpifr-bonn.mpg.de
● Düsseldorf	Max Planck Institute for Iron Research (MPIE)	www.mpie.de
● Dresden	Max Planck Institute for the Physics of Complex Systems (MPIPKS)	www.pks.mpg.de
● Dresden	Max Planck Institute for Chemical Physics of Solids (CPFS)	www.cpfs.mpg.de
● Erlangen	Max Planck Institute for the Science of Light (MPL)	www.mpl.mpg.de
● Garching (Munich)	Max Planck Institute for Astrophysics (MPA-Garching)	www.mpa-garching.mpg.de
● Garching (Munich)	Max Planck Institute for Extraterrestrial Physics (MPE)	www.mpe.mpg.de







NON-UNIVERSITY RESEARCH INSTITUTIONS

Location	Institution	Contact
● Garching (Munich)	Max Planck Institute of Quantum Optics (MPQ)	www.mpq.mpg.de
● Garching (Munich) Greifswald	Max Planck Institute for Plasma Physics (IPP)	www.ipp.mpg.de
● Göttingen	Max Planck Institute for Biophysical Chemistry (BPC)	www.mpibpc.mpg.de
● Göttingen	Max Planck Institute for Dynamics and Self-Organization (DS)	www.ds.mpg.de
● Göttingen	Max Planck Institute for Solar System Research (MPS)	www.mps.mpg.de
● Halle/Saale	Max Planck Institute of Microstructure Physics (MPI-Halle)	www.mpi-halle.mpg.de
● Hamburg	Max Planck Institute for the Structure and Dynamics of Matter (MPSD)	www.mpsd.mpg.de
● Heidelberg	Max Planck Institute for Astronomy (MPIA)	www.mpia.de
● Heidelberg	Max Planck Institute for Nuclear Physics (MPIK)	www.mpi-hd.mpg.de
● Magdeburg	Max Planck Institute of Dynamics of Complex Technical Systems	www.mpi-magdeburg.mpg.de
● Mainz	Max Planck Institute for Polymer Research (MPIP)	www.mpip-mainz.mpg.de
● Munich	Max Planck Institute for Physics (MPP)	www.mpp.mpg.de
● Potsdam- Golm	Max Planck Institute of Colloids and Interfaces (MPIKG)	www.mpikg.mpg.de
● Potsdam- Golm Hannover	Max Planck Institute for Gravitational Physics (AEI)	www.aei.mpg.de
● Stuttgart	Max Planck Institute for Solid State Research (FKF)	www.fkf.mpg.de
● Stuttgart Tübingen	Max Planck Institute for Intelligent Systems (IS)	www.is.mpg.de
OTHERS		
● Berlin Braunschweig	Physikalisch-Technische Bundesanstalt (PTB)	www.ptb.de
● Potsdam	Potsdam Institut für Klimafolgenforschung (PIK)	www.pik-potsdam.de



# GRADUATE TRAINING



 Research Training Groups	 Helmholtz Graduate Schools
 International Research Training Groups	 Leibniz Graduate Schools
 Integrated Research Training Groups in Collaborative Research Centres/Transregios	 International Max Planck Research Schools

# GRADUATE TRAINING









- FUNDED BY DFG -

**Research Training Groups (RTG)** combine an ambitious research programme at universities with comprehensive training, tailored supervision and academic freedom to form an ideal environment for a successful doctorate. Research Training Groups can also have an interdisciplinary approach. They are funded for a period of up to nine years.








**International Research Training Groups (IRTG)** provide opportunities for joint doctoral training programmes between German universities and universities abroad. The research and study programmes are jointly developed and supervised. Doctoral students in the programme spend six months at the partner institution.

**Integrated Research Training Groups** (within Collaborative Research Centres/Transregios) offer ideal research environments for doctoral researchers. The main aim of these structured training programmes is to provide young scientists and academics with opportunities to independently carry out research at an early stage of their career. The programmes further take care to closely integrate early career researchers into an academic network. Working in Collaborative Research Centres projects, doctoral researchers achieve additional qualifications. As research assistants in these projects, they contribute to the Research Centre's success. They are closely involved with the projects and have access to the entire project infrastructure.



## GRADUATE TRAINING

Location	Institution	Title	Funded Since	Contact
RESEARCH TRAINING GROUPS				
 Aachen	Rheinisch-Westfälische Technische Hochschule Aachen	<b>Energy, Entropy and Dissipative Dynamics (RTG 2326)</b>	2017	<a href="http://www.eddy.rwth-aachen.de">www.eddy.rwth-aachen.de</a>
 Aachen	Rheinisch-Westfälische Technische Hochschule Aachen	<b>Quantum Many-Body Methods in Condensed Matter Systems (RTG 1995)</b>	2014	<a href="http://www.rtg1995.rwth-aachen.de">www.rtg1995.rwth-aachen.de</a>
 Aachen	Rheinisch-Westfälische Technische Hochschule Aachen	<b>The Physics of the Heaviest Particles at the Large Hadron Collider (RTG 2497)</b>	2019	<a href="http://www.physik.rwth-aachen.de/cms/Physik/Forschung/Forschungsverbuende/Graduiertenkollegs/~bpfzo/Graduiertenkolleg/lidx/1/">www.physik.rwth-aachen.de/cms/Physik/Forschung/Forschungsverbuende/Graduiertenkollegs/~bpfzo/Graduiertenkolleg/lidx/1/</a>
 Berlin	Humboldt-Universität zu Berlin	<b>Rethinking Quantum Field Theory (RTG 2575)</b>	2020	<a href="http://www2.hu-berlin.de/rtg2575/">www2.hu-berlin.de/rtg2575/</a>
 Braunschweig	Technische Universität Braunschweig	<b>Metrology for Complex Nanosystems (NANOMET) (RTG 1952)</b>	2014	<a href="http://www.tu-braunschweig.de/mib/nanomet">www.tu-braunschweig.de/mib/nanomet</a>
 Darmstadt Mainz	Technische Universität Darmstadt Johannes Gutenberg-Universität Mainz	<b>Accelerator Science and Technology for Energy Recovery Linacs (Accelence) (RTG 2128)</b>	2015	<a href="http://www.ikp.tu-darmstadt.de/accelence_main/uebersicht_accelence.en.jsp">www.ikp.tu-darmstadt.de/accelence_main/uebersicht_accelence.en.jsp</a>
 Freiburg	Albert-Ludwigs-Universität Freiburg	<b>Dynamics of Controlled Atomic and Molecular Systems (RTG 2717)</b>	2014	<a href="http://www.grk2044.uni-freiburg.de">www.grk2044.uni-freiburg.de</a>
 Freiburg	Albert-Ludwigs-Universität Freiburg	<b>Mass and Symmetries after the Discovery of the Higgs Particle at the LHC (RTG 2044)</b>	2023	<a href="http://www.uni-goettingen.de/de/661287.html">www.uni-goettingen.de/de/661287.html</a>
 Göttingen	Georg-August-Universität Göttingen	<b>Cytoskeletal Elements of Active Matter – from Molecular Interactions to Cellular Biophysics (CYTAC) (RTG 2756)</b>	2022	<a href="http://rtg-dyncam.de">http://rtg-dyncam.de</a>
 Hannover	Gottfried Wilhelm Leibniz Universität Hannover	<b>Quantum Mechanical Noise in Complex Systems (RTG 1991)</b>	2014	<a href="http://www.rtg1991.uni-hannover.de">www.rtg1991.uni-hannover.de</a>


## GRADUATE TRAINING

Location	Institution	Title	Funded Since	Contact
 Heidelberg	Ruprecht-Karls-Universität Heidelberg	<b>High Resolution and High Rate Detectors in Nuclear and Particle Physics (HighRR) (RTG 2058)</b>	2015	<a href="http://www.physik.uni-heidelberg.de/highrr">www.physik.uni-heidelberg.de/highrr</a>
 Heidelberg	Ruprecht-Karls-Universität Heidelberg	<b>Particle Physics Beyond the Standard Model (RTG 1940)</b>	2013	<a href="http://www.thphys.uni-heidelberg.de/~gk_ppbsm/doku.php?">www.thphys.uni-heidelberg.de/~gk_ppbsm/doku.php?</a>
 Mainz	Johannes Gutenberg-Universität Mainz	<b>Control of Structure Formation in Soft Matter at and through Interfaces (RTG 2516)</b>	2020	<a href="https://grk2516.uni-mainz.de/">https://grk2516.uni-mainz.de/</a>
 Mainz	Johannes Gutenberg-Universität Mainz	<b>Particle Detectors For Future Experiments – From Concept to Operation (RTG 2796)</b>	2022	<a href="https://particle-detectors.uni-mainz.de">https://particle-detectors.uni-mainz.de</a>
 Münster	Westfälische Wilhelms-Universität Münster	<b>Strong and Weak Interactions – From Hadrons to Dark Matter (RTG 2149)</b>	2015	<a href="http://www.uni-muenster.de/Physik.GRK2149">www.uni-muenster.de/Physik.GRK2149</a>
 Rostock	Universität Rostock	<b>Imaging of Quantum Systems: Photons, Molecules and Materials (RTG 2676)</b>	2022	<a href="http://www.physik.uni-rostock.de/en/arbeitsgruppen/">www.physik.uni-rostock.de/en/arbeitsgruppen/</a>
 Würzburg	Julius-Maximilians-Universität Würzburg	<b>Molecular Biradicals: Structure, Properties and Reactivity (RTG 2112)</b>	2015	<a href="http://www.uni-wuerzburg.de/grk2112">www.uni-wuerzburg.de/grk2112</a>








## INTERNATIONAL RESEARCH TRAINING GROUPS

 Bayreuth	Universität Bayreuth	<b>Optical Excitations in Organic and Inorganic Semiconductors: Understanding and Control through External Stimuli (IRTG 2818)</b>	2023	<a href="https://gepris.dfg.de/gepris/projekt/464648186">https://gepris.dfg.de/gepris/projekt/464648186</a>
Melbourne (Australia)	University of Melbourne			
 Jena	Friedrich-Schiller-Universität Jena	<b>Tailored Metasurfaces – Generating, Programming and Detecting Light (IRTG 2675)</b>	2022	<a href="https://gepris.dfg.de/gepris/projekt/437527638">https://gepris.dfg.de/gepris/projekt/437527638</a>
Canberra (Australia)	The Australian National University			

## INTEGRATED RESEARCH TRAINING GROUPS IN COLLABORATIVE RESEARCH CENTRES

 Bochum	Ruhr-Universität Bochum	<b>Integrated Research Training Group within: Transient Atmospheric Plasmas – from Plasmas to Liquids to Solids (CRC 1316)</b>	2017	<a href="https://sfb1316.rub.de/index.php">https://sfb1316.rub.de/index.php</a>
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## GRADUATE TRAINING

Location	Institution	Title	Funded Since	Contact
 Darmstadt	Technische Universität Darmstadt	<b>Integrated Research Training Group within: Nuclei: From Fundamental Interactions to Structure and Stars (CRC 1245)</b>	2015	<a href="http://www.sfb1245.tu-darmstadt.de/mgk.html">www.sfb1245.tu-darmstadt.de/mgk.html</a>
 Dresden	Technische Universität Dresden	<b>Integrated Research Training Group within: Chemistry of Synthetic Two-Dimensional Materials (CRC 1415)</b>	2020	<a href="https://tu-dresden.de/mn/chemie/sfb1415">https://tu-dresden.de/mn/chemie/sfb1415</a>
 Dresden	Technische Universität Dresden	<b>Integrated Research Training Group within: Correlated Magnetism: From Frustration to Topology (CRC 1143)</b>	2014	<a href="https://tu-dresden.de/mn/physik/sfb1143">https://tu-dresden.de/mn/physik/sfb1143</a>
 Duisburg	Universität Duisburg-Essen	<b>Integrated Research Training Group within: Non-Equilibrium Dynamics of Condensed Matter in the Time Domain (CRC 1242)</b>	2016	<a href="http://www.uni-due.de/sfb1242/irtg.php">www.uni-due.de/sfb1242/irtg.php</a>
 Göttingen	Georg-August-Universität Göttingen	<b>Integrated Research Training Group within: Atomic Scale Control of Energy Conversion (CRC 1073)</b>	2013	<a href="http://www.uni-goettingen.de/en/irtg/438103.html">www.uni-goettingen.de/en/irtg/438103.html</a>
 Hamburg	Universität Hamburg	<b>Integrated Research Training Group within: Light Induced Dynamics and Control of Correlated Quantum Systems (CRC 925)</b>	2011	<a href="http://www1.physik.uni-hamburg.de/en/sfb925.html">www1.physik.uni-hamburg.de/en/sfb925.html</a>
 Hannover	Goettfried Wilhelm Leibniz Universität Hannover	<b>Integrated Research Training Group within: Relativistic and Quantumbased Geodesy (TerraQ) (CRC 1464)</b>	2021	<a href="http://www.terraq.uni-hannover.de/en/support-structures/research-training-group">www.terraq.uni-hannover.de/en/support-structures/research-training-group</a>
 Konstanz	Universität Konstanz	<b>Integrated Research Training Group within: Fluctuations and Nonlinearities in Classical and Quantum Matter beyond Equilibrium (CRC 1432)</b>	2021	<a href="http://www.sfb1432.uni-konstanz.de/irtg-fan">www.sfb1432.uni-konstanz.de/irtg-fan</a>
 Munich	Ludwig-Maximilians-Universität München	<b>Integrated Research Training Group within: Nanoagents for Spatiotemporal Control of Molecular and Cellular Reactions (CRC 1032)</b>	2012	<a href="http://www.sfb1032.physik.uni-muenchen.de/graduate_program1/index.html">www.sfb1032.physik.uni-muenchen.de/graduate_program1/index.html</a>



## GRADUATE TRAINING

Location	Institution	Title	Funded Since	Contact
 Munich	Technische Universität München	<b>Munich School on Neutrinos and Dark Matter within: Neutrinos and Dark Matter in Astro- and Particle Physics (NDM) (CRC 1258)</b>	2016	<a href="http://www.sfb1258.de/graduate-school">www.sfb1258.de/graduate-school</a>
 Regensburg	Universität Regensburg	<b>Integrated Research Training Group within: Emergent Relativistic Effects in Condensed Matter: From Fundamental Aspects to Electronic Functionality (CRC 1277)</b>	2017	<a href="http://www.sfb1277-regensburg.de/">www.sfb1277-regensburg.de/</a>
 Würzburg	Julius-Maximilians-Universität Würzburg	<b>Integrated Research Training Group within: Topological and Correlated Electronics at Surfaces and Interfaces (ToCoTronics) (CRC 1170)</b>	2015	<a href="http://www.physik.uni-wuerzburg.de/sfb1170/i-rtg/">www.physik.uni-wuerzburg.de/sfb1170/i-rtg/</a>
INTEGRATED RESEARCH TRAINING GROUPS IN COLLABORATIVE RESEARCH CENTRES/TRANSREGIOS				
 Berlin Halle/Saale	Freie Universität Berlin Martin-Luther-Universität Halle-Wittenberg	<b>Integrated Research Training Group within: Ultrafast Spin Dynamics (TRR 227)</b>	2017	<a href="http://www.trr227.de/iRTG/index.html">www.trr227.de/iRTG/index.html</a>
 Bonn Kaiserslautern	Rheinische Friedrich-Wilhelms-Universität Bonn Technische Universität Kaiserslautern	<b>Integrated Research Training Group within: Open System Control of Atomic and Photonic Matter (OSCAR) (TRR 185)</b>	2016	<a href="http://www.physik.uni-kl.de/oscar">www.physik.uni-kl.de/oscar</a>
 Darmstadt Duisburg	Technische Universität Darmstadt Universität Duisburg-Essen	<b>Integrated Research Training Group within: Hysteresis Design of Magnetic Materials for Efficient Energy Conversion: HoMMage (TRR 270)</b>	2020	<a href="http://www.tu-darmstadt.de/sfb270/research_programme/research_areas_projects_1/project_zmgk.en.jsp">www.tu-darmstadt.de/sfb270/research_programme/research_areas_projects_1/project_zmgk.en.jsp</a>
 Darmstadt Mainz	Technische Universität Darmstadt Johannes Gutenberg-Universität Mainz	<b>Integrated Research Training Group within: Multiscale Simulation Methods for Soft Matter Systems (TRR 146)</b>	2014	<a href="http://trr146.de">http://trr146.de</a>

## GRADUATE TRAINING

Location	Institution	Title	Funded Since	Contact
 Erlangen	Friedrich-Alexander-Universität Erlangen-Nürnberg	<b>Integrated Research Training Group within: Quantum Cooperativity of Light and Matter – QuCoLiMa (TRR 306)</b>	2021	<a href="http://www.qucolima.de/phd-program/">www.qucolima.de/phd-program/</a>
Mainz	Johannes Gutenberg-Universität Mainz			
Saarbrücken	Universität des Saarlandes			
 Kaiserslautern Mainz	Technische Universität Kaiserslautern Johannes Gutenberg-Universität Mainz	<b>Integrated Research Training Group “Spin+X Young Researcher College” within: Spin+X – Spin in its Collective Environment (TRR 173)</b>	2015	<a href="http://www.uni-kl.de/trr173/ycr/">www.uni-kl.de/trr173/ycr/</a>
 Munich	Ludwig-Maximilians-Universität München Technische Universität München	<b>Integrated Research Training Group within: Emergence of Life– Exploring Mechanisms with Cross-Disiplinary Experiments (TRR 235)</b>	2018	<a href="http://www.emergence-of-life.de/graduate-program/index.html">www.emergence-of-life.de/graduate-program/index.html</a>

## GRADUATE TRAINING

### - AT NON-UNIVERSITY RESEARCH INSTITUTIONS -

**Helmholtz Graduate Schools** provide a roof under which a varied number of curricula in different fields, or across disciplines, can find a home. Helmholtz Graduate Schools constitute a valuable addition to the wide range of training programmes available within the Helmholtz Association. They offer optimal conditions for PhD students to work and enable them to create a network of contacts with fellow university researchers while also fostering the integration of participants into the research environment.

**Leibniz Graduate Schools** were established to foster the systematic promotion of junior researchers. Young researchers are given the opportunity to do their doctorates in an excellent, collaborative, cross-disciplinary research environment. To this end, Leibniz institutions cooperate closely with universities. As every Leibniz institution focuses on clearly defined, socially-relevant themes, doctoral candidates have a wealth of networking opportunities in a large, dedicated scientific community. The particular character of research at the institutions in the Leibniz Association, which includes fundamental, large-scale and application-oriented research, means doctoral candidates can conduct research from basic idea right through to application.

**International Max Planck Research Schools (IMPRS)** offer talented German and international junior scientists the opportunity to earn a doctorate under excellent research conditions. The research schools are established by one or several Max Planck Institutes. These IMPRS work in close cooperation with universities and other – sometimes international – research institutions. This provides an extraordinary framework for the graduate students to work in, and is a great advantage in interdisciplinary research projects, or in projects that require special equipment.

**Max Planck Schools** are a joint initiative of the Max Planck Society, German universities and the German research organizations. As national networks of graduate education, the Max Planck Schools complement the highly successful regional cooperation formats such as the International Max Planck Research Schools (IMPRS). The three pilot Schools will receive a total of nine million euros in funding from the Federal Ministry of Education and Research (BMBF) each year over an initial period of five years. Max Planck Schools are not shown on the map.

### GRADUATE TRAINING

Location	Title	Contact
HELMHOLTZ GRADUATE SCHOOLS		
○ Darmstadt	Helmholtz Graduate School for Hadron and Ion Research (HGS-HiRe for FAIR)	<a href="http://hgs-hire.de">http://hgs-hire.de</a>
○ Garching (Munich)	International Helmholtz Graduate School for Plasma Physics (HEPP)	<a href="http://www.ipp.mpg.de/hepp">www.ipp.mpg.de/hepp</a>
○ Hamburg	PIER Helmholtz Graduate School	<a href="http://www.pier-hamburg.de">www.pier-hamburg.de</a>
○ Jülich	Helmholtz Interdisciplinary Doctoral Training in Energy and Climate Research (HITEC)	<a href="http://www.hitec-graduate-school.de/">www.hitec-graduate-school.de/</a>
LEIBNIZ GRADUATE SCHOOLS		
○ Potsdam	Leibniz Graduate School for Quantitative Spectroscopy in Astrophysics	<a href="http://www.aip.de">www.aip.de</a>
INTERNATIONAL MAX PLANCK RESEARCH SCHOOLS (IMPRS)		
○ Berlin	IMPRS Functional Interfaces in Physics and Chemistry	<a href="http://www.imprs-cs.mpg.de">www.imprs-cs.mpg.de</a>
○ Bonn	IMPRS of Astronomy and Astrophysics	<a href="https://blog.mpifr-bonn.mpg.de/imprs/">https://blog.mpifr-bonn.mpg.de/imprs/</a>
○ Düsseldorf	IMPRS for Interface Controlled Materials for Energy Conversion	<a href="http://www.mpie.de/2747306/doctoral_programme">www.mpie.de/2747306/doctoral_programme</a>
○ Dresden	IMPRS for Many Particle Systems in Structured Environments	<a href="http://www.imprs-mpsse.mpg.de">www.imprs-mpsse.mpg.de</a>
○ Dresden	IMPRS for Chemistry and Physics of Quantum Materials	<a href="https://imprs-cpqm.mpg.de/">https://imprs-cpqm.mpg.de/</a>
○ Erlangen	IMPRS Physics of Light	<a href="http://www.mpl.mpg.de/de/imprs">www.mpl.mpg.de/de/imprs</a>
○ Garching (Munich)	IMPRS of Advanced Photon Science	<a href="http://www2.mpg.mpg.de/APS">www2.mpg.mpg.de/APS</a>
○ Garching (Munich)	IMPRS for Astrophysics	<a href="http://www.imprs-astro.mpg.de">www.imprs-astro.mpg.de</a>
○ Garching (Munich)	IMPRS for Quantum Science and Technology	<a href="http://www.imprs-quantum.mpg.de/">www.imprs-quantum.mpg.de/</a>
○ Göttingen	IMPRS for Physics of Biological and Complex Systems	<a href="http://www.uni-goettingen.de">www.uni-goettingen.de</a>
○ Göttingen	IMPRS for Solar System Science at the University of Göttingen	<a href="http://www.mps.mpg.de/73264/imprs">www.mps.mpg.de/73264/imprs</a>
○ Hamburg	IMPRS for Ultrafast Imaging and Structural Dynamics	<a href="http://www.imprs-ufast.de">www.imprs-ufast.de</a>
○ Hannover Potsdam-Golm	IMPRS on Gravitational Wave Astronomy	<a href="http://imprs-gw.aei.mpg.de">http://imprs-gw.aei.mpg.de</a>

GRADUATE TRAINING

Location	Title	Contact
○ Heidelberg	IMPRS for Astronomy and Cosmic Physics at the University of Heidelberg	<a href="http://www.imprs-hd.mpg.de">www.imprs-hd.mpg.de</a>
○ Heidelberg	IMPRS for Precision Tests of Fundamental Symmetries	<a href="http://www.mpi-hd.mpg.de">www.mpi-hd.mpg.de</a>
○ Heidelberg	IMPRS for Quantum Dynamics in Physics, Chemistry and Biology	<a href="http://www.mpi-hd.mpg.de">www.mpi-hd.mpg.de</a>
○ Magdeburg	IMPRS for Advanced Methods in Process and Systems Engineering	<a href="http://www.mpi-magdeburg.mpg.de">www.mpi-magdeburg.mpg.de</a>
○ Mülheim	IMPRS on Reactive Structure Analysis for Chemical Reactions	<a href="https://imprs.cec.mpg.de">https://imprs.cec.mpg.de</a>
○ Munich	IMPRS on Elementary Particle Physics	<a href="http://www.mpp.mpg.de">www.mpp.mpg.de</a>
○ Potsdam	IMPRS for Multiscale Bio-Systems	<a href="https://imprs.mpikg.mpg.de">https://imprs.mpikg.mpg.de</a>
○ Potsdam-Golm	IMPRS for Mathematical and Physical Aspects of Gravitation, Cosmology and Quantum Field Theory	<a href="http://www.imprs-gcq.aei.mpg.de">www.imprs-gcq.aei.mpg.de</a>
○ Stuttgart	IMPRS for Condensed Matter Science	<a href="http://www.imprs-cms.mpg.de">www.imprs-cms.mpg.de</a>
○ Stuttgart Tübingen	IMPRS for Intelligent Systems	<a href="http://imprs.is.mpg.de">http://imprs.is.mpg.de</a>
<b>MAX PLANCK RESEARCH SCHOOLS</b>		
various locations	Max Planck School Matter to Life	<a href="http://www.maxplanck-schools.de">www.maxplanck-schools.de</a>
various locations	Max Planck School of Photonics	<a href="http://www.maxplanck-schools.de">www.maxplanck-schools.de</a>



## SOCIETIES AND ASSOCIATIONS

### IN GERMANY:

- Deutsche Gesellschaft für Biophysik (DGfB): [www.dgfb.org](http://www.dgfb.org)
- Deutsche Gesellschaft für Elektronenmikroskopie (DGE): [www.dge-homepage.de](http://www.dge-homepage.de)
- Deutsche Physikalische Gesellschaft (DPG): [www.dpg-physik.de](http://www.dpg-physik.de)
- German Astronomical Society (AG): [www.astronomische-gesellschaft.org](http://www.astronomische-gesellschaft.org)
- German Bunsen Society for Physical Chemistry (DBG): <https://bunsen.de/> (DE)
- German Crystallographic Society (DGK): <https://dgk-home.de>
- German Scientific Laser Society (WLT): [www.wlt.de](http://www.wlt.de) (DE)
- German Vacuum Society (DVG): [www.vakuumgesellschaft.de](http://www.vakuumgesellschaft.de) (DE)
- The German Branch of the European Optical Society (DGaO): [www.dgao.de](http://www.dgao.de) (DE)

## OPEN POSITIONS

- Research in Germany: [www.research-in-germany.org/jobs](http://www.research-in-germany.org/jobs)
- Fraunhofer Society: [www.fraunhofer.de/en/jobs-and-career.html](http://www.fraunhofer.de/en/jobs-and-career.html)
- Helmholtz Association: [www.helmholtz.de/en/jobs\\_talent](http://www.helmholtz.de/en/jobs_talent)
- Leibniz Society: [www.leibniz-gemeinschaft.de/en/careers/jobs.html](http://www.leibniz-gemeinschaft.de/en/careers/jobs.html)
- Max Planck Society: [www.mpg.de/jobboard](http://www.mpg.de/jobboard)


## FURTHER INFORMATION

### RESEARCH INSTITUTIONS, PROJECTS, FUNDING, CONTACTS

**Research in Germany**  
  
**Land of Ideas**

**The “Research in Germany” Portal:** Information on research and funding opportunities, academic and research-related job portals, as well as advice on preparing a research stay or initiating a collaboration with German research organisations. [www.research-in-germany.org](http://www.research-in-germany.org)



  
**GEPRIIS**  
Projects funded by DFG

**German Project Information System (GEPRIIS):** Online database providing information about all current DFG-funded research projects and contact information for the Principal Investigators. <http://gepris.dfg.de>



  
**GERIT**  
German Research Institutions


**German Research Institutions (GERIT):** Information on more than 25,000 institutes at German universities and non-university research institutions, searchable by geographic location, subject and other structural criteria. [www.gerit.org](http://www.gerit.org)



  
**DFG**


**Website of the DFG:** Further background information about DFG funding programmes, funding guidelines, and lists of currently DFG-funded activities. [www.dfg.de](http://www.dfg.de)



  
**HRK**

**The German Rectors’ Conference (HRK) Research Map:** The interactive HRK *Research Map* database provides information on the research priorities that are of strategic institutional importance for each university. [www.hrk.de/home/](http://www.hrk.de/home/) (go to → *Research Map*)



  
**HIGHER-EDUCATION COMPASS**

**The Higher Education Compass:** Information on Germany’s higher education institutions, the range of courses and programmes that they offer, their worldwide cooperation, and who to contact locally. [www.hochschulkompass.de/en/higher-education-compass](http://www.hochschulkompass.de/en/higher-education-compass)





## Contact

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DFG Head Office Germany  
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