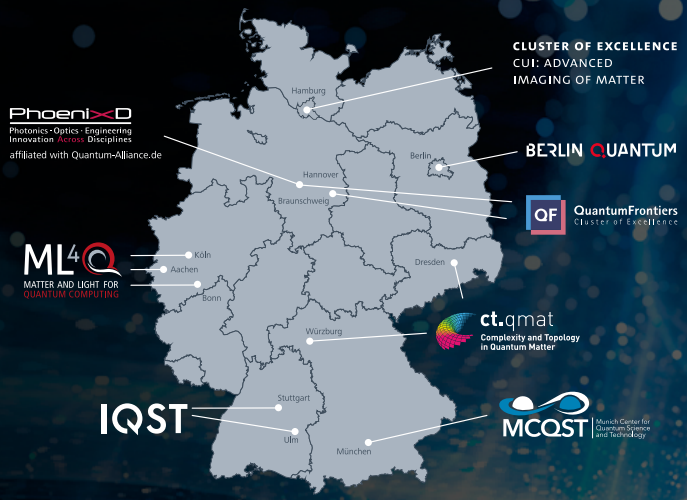

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We invite you to learn more about the exciting research within the Quantum Alliance and the various support programs for early career researchers and young investigators offered at our partner institutions.

Please check our websites for upcoming events for the scientific community from academia and industry as well as for the broader public.

QUANTUM ALLIANCE

Clusters of Excellence are funded by the German Research Foundation (Deutsche Forschungsgemeinschaft, DFG) within the Excellence Strategy of the German federal and state governments.

Contact

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Quantum Alliance

is a consortium of German Clusters of Excellence and centers working in the field of quantum science and technology.

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CLUSTER OF EXCELLENCE
CUI: ADVANCED IMAGING OF MATTER

Universität Hamburg | Deutsches Elektronen-Synchrotron (DESY) | Max Planck Institute for the Structure and Dynamics of Matter (MPSD) | European XFEL GmbH (XFEL)

The cluster's central objective is to understand emergent phenomena of matter and – going one step further – to dynamically create new functionalities. Non-equilibrium emergence – its understanding and control – is the overarching theme of the cluster. Central to its success is the imaging of the dynamics of complex physical and chemical systems in real time, on the atomic scale.

cui-advanced.uni-hamburg.de | linkedin.com/company/cui-advanced-imaging-of-matter/ | cui.office@uni-hamburg.de

QuantumFrontiers
Cluster of Excellence

Leibniz Universität Hannover | TU Braunschweig | Physikalisch-Technische Bundesanstalt | Max-Planck-Institut für Gravitationsphysik (Albert-Einstein-Institut) | Laser Zentrum Hannover e.V. | University of Bremen, ZARM

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ML4Q MATTER AND LIGHT FOR QUANTUM COMPUTING

University of Cologne | RWTH Aachen University | University of Bonn | Forschungszentrum Jülich

ML4Q is a consortium of scientists with backgrounds in the key disciplines of quantum computation: condensed matter physics, quantum optics, quantum devices, and quantum information. We aim to push the frontiers of the field by developing novel forms of quantum hard- and software: from fundamental research on quantum matter over quantum information devices to operation protocols and software.

ml4q.de | linkedin.com/company/ml4q/ | ml4q-office@uni-koeln.de

MCQST
Munich Center for Quantum Science and Technology

LMU Munich | TU Munich | Max Planck Institute of Quantum Optics (MPQ) | Walther-Meissner-Institute (WMI) | Deutsches Museum (DM)

MCQST brings together more than 60 research groups from various disciplines to collaborate on an ambitious research program covering all fields of quantum science and technology (QST). The main goal is to discover and understand the novel and unifying concepts of QST, making them tangible and practical for the development of next generation quantum devices.

mcqst.de | linkedin.com/company/mcqst/ | info@mcqst.de

IQST

University of Stuttgart | Ulm University | Karlsruhe Institute of Technology (KIT) | Max Planck Institute for Solid State Research, Stuttgart

It is our main goal to establish quantum science and technology as a new discipline across borders of traditional research fields and to revolutionize the technology and the principles of quantum sensing especially for applications in life sciences, materials science and medical diagnostics.

iqst.org | linkedin.com/company/iqst-integrated-quantum-science-and-technology/ | hello@iqst.org

ct.qmat
Complexity and Topology in Quantum Matter

Julius-Maximilians-Universität Würzburg (JMU) | Technische Universität Dresden (TUD)

The cluster ct.qmat is a leading international center devoted to research on topological and complex quantum matter. Our aims are to discover and understand novel quantum phenomena as well as to identify and design materials in which these phenomena are observed in the laboratory, with the goal of demonstrating the viability of novel applications.

ctqmat.de | linkedin.com/company/ctqmat/ | ct.qmat@uni-wuerzburg.de

BERLIN QUANTUM

Freie Universität Berlin | Humboldt-Universität zu Berlin | Technische Universität Berlin

BERLIN QUANTUM aims to promote Berlin as a globally recognized, collaborative research community that stimulates innovation in quantum science and technology. We see our particular strengths in the areas of quantum photonics implementations and quantum information theory. BERLIN QUANTUM pursues an interdisciplinary and cross-sector vision to make Berlin a global leader in the field of quantum technologies . The Berlin University Alliance is coordinating the scientific related activities of the initiative.

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PhoenixD
Photonics · Optics · Engineering
Innovation Across Disciplines

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Leibniz Universität Hannover | TU Braunschweig | Laser Zentrum Hannover e.V. | Max-Planck-Institut für Gravitationsphysik (Albert-Einstein-Institut) | Physikalisch-Technische Bundesanstalt (PTB)

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