



Education and Outreach

- Enhancing public engagement
- Providing structured education at all levels
- Masterclasses in school
- Increasing the diversity of ideas
- Coordinating with BMBF and QT Flagship programmes

Equal Opportunity and Diversity

- Individual mentoring for leadership in science for female professors
- Team mentoring for female PhD students
- Niedersachsen Technikum for young students

Tech Transfer

- QuantumFrontiers Entrepreneur Excellence Programme (QuEEP)
- Quantum engineering master's degree
- Startup accelerator
- Innovation labs for industry transfer

QuantumFrontiers International Research School (QFIRS)

- Linking physics and engineering
- Internationalisation: send PhDs abroad
- Establish scientific & alumni network

Unprecedented measurement precision at the largest and smallest dimensions, from gravitational-wave astronomy to the control of light and matter at the quantum level: QuantumFrontiers brings top researchers in metrology together in one region to push the boundaries of what can be measured. As pioneers of the quantum world, the researchers bridge the foundations of metrology with the applications in metrology and connect their discoveries with society.



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Light and Matter at
the Quantum Frontier



Who is QuantumFrontiers?

The success of QuantumFrontiers is built on the excellence and long-standing collaboration of 400 people in six institutions comprising the DFG-funded Cluster of Excellence. This combination of expertise and infrastructure is not found anywhere else in the world. Beyond the regional network, QuantumFrontiers researchers strive to share their science with society and industry.

Partners

- Leibniz University Hannover
- Technische Universität Braunschweig
- Physikalisch-Technische Bundesanstalt
- Max Planck Institute for Gravitational Physics
- Laser Zentrum Hannover e.V.
- Center of Applied Space Technology and Microgravity

Sharing Science

QuantumFrontiers ensures contact and exchange of knowledge and technology with all facets of society and industry. This is realized e.g. via programs with pupils and by offering a Master's degrees on quantum engineering. Our most effective vehicles for knowledge transfer are ultimately our researchers, educated to connect their research and even enabled to found a business. Furthermore, QuantumFrontiers' researchers are engaged in technology transfer via support from the Quantum Valley Lower Saxony initiatives.

What is QuantumFrontiers?

Are you interested in how to push the bounds of what is possible to measure in nature? How precise can you observe climate change, black holes or the flow of time? Within QuantumFrontiers we develop devices to monitor our water resources from space, detect gravitational waves and explore which clock can achieve the best accuracy. We combine nano-engineering and quantum physics to increase the sensitivity of measurements to our understanding of nature.

