

1st DPG Fall Meeting

of the Deutsche Physikalische Gesellschaft

Quantum Science and Information Technologies

Joint Meeting of the Sections for
Atomic, Molecular, Plasma Physics and Quantum Optics (SAMOP)
Condensed Matter (SKM)
Matter and Cosmos (SMuK)

Topics:

Quantum Computation

- Algorithms
- Benchmarking and Certification
- Fault Tolerance & Error Correction
- Applications
- Hardware Platforms
- Simulation

Secure Communication & Computation

- Benchmarking and Certification
- Post Quantum Cryptography
- Quantum Key Distribution
- Randomness

Enabling Technologies

- Cavity QED
- Cold Electronics
- Quantum Imaging
- Quantum Materials
- Sources of Quantum States of Light

Topology

- Artificial Systems
- Majoranas
- Solid State Systems

Education and Outreach

- Ethical and legal Aspects
- Science and the Public
- Teaching Quantum Science

Quantum Sensing

- Hardware Platforms
- Entanglement and Beyond Shot Noise
- Spectroscopy
- Applications

Quantum Networks

- Concepts & Applications
- Interfaces & Hybrid Systems
- Quantum Memory & Gates
- Platforms & Components

Quantum Information Concepts in

- Astrophysics
- Biology & Chemistry
- Complex Systems
- Lattice Theories
- Open Systems
- Thermodynamics

Quantum and Information Science

- Artificial Intelligence
- Machine Learning
- Neural Networks

Entanglement

- Many-body States
- Many-body Dynamics
- Quantum Control
- Transport
- Spectroscopy

#DPGFR19

Local Organiser:

Prof. Dr. Andreas Buchleitner
Physikalisches Institut
Albert-Ludwigs-Universität Freiburg

Scientific Organiser:

Prof. Dr. Harald Weinfurter
Department für Physik
Ludwig-Maximilians-Universität München

Conference Venue:

Albert-Ludwigs-Universität Freiburg, Kollegengebäude I,
Platz der Universität 3, 79098 Freiburg



Formats:

Plenary

A colloquium-like presentation of the speaker's research focus, though accessible for the broad and interdisciplinary audience of the meeting, with special focus on the motivation, context, and perspectives of the presented research.

Introductory talk

A lecture-like introduction into a broader research area, accessible for the broad and interdisciplinary audience of the meeting, with special focus on the basic assumptions, central methods, important open questions and possible future directions, in particular under the meeting's interdisciplinary perspective.

Focus talk

A lecture-like introduction to a specific research area within the diverse themes of the meeting, accessible to participants who want "to know more", though do not necessarily have specialized pre-knowledge.

Special session

Symposium-like sessions on selected topics which represent diverse perspectives upon the meeting's themes.

Industry

Dedicated sessions to intensify the discourse between research in academia and in industry, in order to identify research questions and opportunities of mutual interest, as well as prerequisites for successful cooperations.

Thematic session

Sessions of contributed talks on the topics to be debated during the meeting, opened by an invited introductory talk on the specific theme.

September 23-27, 2019

freiburg19.dpg-tagungen.de

Submission Deadline: June 14, 2019