

Laser World of Photonics | World of Quantum 2025

PROGRAM OVERVIEW

TUESDAY, 24 JUNE 2025

ALL DAY: EXHIBITION BMFTR-BOOTH (funding consulting & numerous exhibits)			A1.140
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Qiskit Hackathon 11:00-11:20 Welcome	Quantum Future Professionals 11:30-12:30 Session I: Skilled Workforce for Quantum Technologies 13:30-14:30 Session II: The need of Quantum Workforce – different perspectives 14:30-15:30 Expert Panel with the speakers	Exhibit Live Presentations 15:30-15:50 High Fidelity Trapped Ion Quantum Computers (neQxt GmbH) 15:50-16:10 Quantum Sensors for Magnetic Field Measurements (Quantum Technologies GmbH)	

WEDNESDAY, 25 JUNE 2025

ALL DAY: EXHIBITION BMFTR-BOOTH (funding consulting & numerous exhibits)			A1.140
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Quantum Future Junior Research Groups 9:45-10:50 Session I: Materials & Interfaces 11:20-12:30 Session II: Quantum Computing 15:30-16:15 Session III: Neutral atoms for Quantum Computing	Meeting the Quantum Future Talents 15:00-15:30 Q&A Panel: BMFTR Management and Quantum Future Insights (Young Talents)	Qiskit Hackathon 16:30-17:00 Award Ceremony	

THURSDAY, 26 JUNE 2025

ALL DAY: EXHIBITION BMFTR-BOOTH (funding consulting & numerous exhibits)				A1.140
by invitation only	A1.140	by invitation only	A1.140	
QUANTista Workshop 9:30-11:30 Outreach Workshop exclusive for participants from Quantum Future Insights (Young Talents)	Research meets Outreach 09:55-12:20 Session I: Quantum Computing: - Quantum Algorithms and Optimization - Quantum Computing for Databases - AI in Quantum Technologies 13:30-15:20 Session II: Quantum Sensing: - Quantum Sensing in Life Science - NV Centers - Diamond based Quantum Sensing	Innovation Journey – Leading Women in Quantum 09.30-17:00 Networking, exclusive guided tours, lectures and World Café format for invited Leadership Women in Quantum and Photonics	“Women only” booth party 17:00-20:00 Networking with snacks; mocktails and music for interested women	

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TUESDAY, 24 JUNE

QISKIT HACKATHON

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- 11:00 **Welcome**
11:20 FABIAN LAUSEN (Federal Ministry of Research, Technology and Space)
 FABIO SCAFIRIMUTO (IBM Quantum)

QUANTUM FUTURE PROFESSIONALS

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SESSION 1: Welcome and Overview

- 11:30 **Skilled Workforce for Quantum Technologies**
 PETRA WOLFF (Federal Ministry of Research, Technology and Space)
- 11:50 **Quantum's big leap from hype to here: is there enough talent?**
 MARTINA GSCHWENDTER (McKinsey & Company)
- 12:10 **Bringing Quantum Technologies on the Table --**
 Board Games for Communicating Quantum Technologies 2.0
 [Project QUANTista](#)
 STEFANIE KROKER (TU Braunschweig)

12:30 Break

SESSION 2: The need for Quantum Workforce – different perspectives

- 13:30 **Training of Engineers in the field of Quantum Technologies in Electrical Engineering**
 ROLAND NAGY (FAU Erlangen-Nürnberg)
- 13:50 **Quantifying the Workforce Challenge in Quantum Tech – Introducing a Study in Progress:**
 Framework, Approach, and Key Questions
 [Project QUANTiFaID](#)
 ANDREAS LAND (Stifterverband für die Deutsche Wissenschaft e.V.)
- 14:10 **Growing the Quantum Community**
 EMILY HAWORTH (PushQuantum e.V.)

SESSION 3: Experts Panel Quantum Future Professionals

- 14:30 **Panel with the speakers**

EXHIBIT LIVE PRESENTATION

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- 15:30 **High Fidelity Trapped Ion Quantum Computers, scaling and use cases**
 BJOERN LEKITSCH (neQxt GmbH)
- 15:50 **All-Optical Quantum Sensors for Magnetic Field Measurements**
 [Project RaQuEI](#)
 ROBERT STAACKER (Quantum Technologies GmbH)

WEDNESDAY, 25 JUNE

QUANTUM FUTURE RESEARCH GROUPS

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SESSION 1: Materials & Interfaces

- 9:45 **Welcome (Federal Ministry of Research, Technology and Space)**
- 9:50 **Network interfaces for Quantum Supercomputers**
[Research Group IonLinQ](#)
RALF RIEDINGER (Hamburg University)
- 10:10 **Atomically thin Materials for Integrated Quantum Systems**
[Research Group ATOMIQS](#)
TOBIAS VOGL (TU Munich)
- 10:30 **Germanium Quantum Wells as a novel Quantum Engineering Platform**
[Research Group GeBaseQ](#)
VINCENT MOURIK (Forschungszentrum Jülich GmbH)

10:50 Break

SESSION 2: Quantum Computing

- 11:20 **Holistic Algorithmics to Quantum Chemistry on Quantum Computers**
[Research Group HoliQC2](#)
JAKOB KOTTMANN (University of Augsburg)
- 11:40 **Quantum-enhanced High-Performance Computing for the Green Energy Transition**
[Research Group qHPC-GREEN](#)
WERNER DOBRAUTZ (Helmholtz-Zentrum Dresden-Rossendorf e. V.)
- 12:00 **Photonic Quantum Frequency Circuits**
[Research Group PQuMAL](#)
MICHAEL KUES (Leibniz University Hannover)

12:30 Break

MEETING THE QUANTUM FUTURE TALENTS

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- 15:00 **Opening**
ENGELBERT BEYER (Federal Ministry of Research, Technology and Space)
- 15:10 **Q&A Session**
15:30
 - ENGELBERT BEYER (Federal Ministry of Research, Technology and Space)
 - QUANTUM FUTURE TALENTS (Alumni of the Quantum Future Academies & Awards)



WEDNESDAY, 25 JUNE

QUANTUM FUTURE RESEARCH GROUPS

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SESSION 3: Neutral atoms for Quantum Computing

- 15:30 **Circular Rydberg atoms for 'Quantum Simulations**
 [Research Group CiRQus](#)
 FLORIAN MEINERT (University of Stuttgart)
- 15:50 **Quantum Computing with Neutral Atom Arrays**
 [Research Group SNAQC](#)
 JOHANNES ZEIHNER (Max Planck Institute of Quantum Optics)

QISKIT HACKATHON

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- 16:30- **Award Ceremony**
17:00 FABIAN MEHRING (Bavarian Ministry for Digital Affairs)
 MODERATION: FABIO SCARFIMUTO (IBM Quantum)

THURSDAY, 26 JUNE

RESEARCH MEETS OUTREACH

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SESSION 1: Quantum Computing

- 9:55 **Welcome (Federal Ministry of Research, Technology and Space)**
- 10:00 **Quantum Algorithms and Optimization**
- JULIAN HAGER (Ludwig-Maximilians-University Munich)
[Project CAQAO](#)
 - SEBASTIAN ZIELINSKI (Ludwig-Maximilians-University Munich)
[Project QuCUN](#)
- 10:40 **Quantum Computing for Databases**
- NGUYEN-TRUONG LE (Fraunhofer Institute for Industrial Engineering IAO)
[Project QOI](#)
 - SVEN GROPPÉ (University of Lübeck)
[Project QC4DB](#)
- 11:20 **Artificial Intelligence in Quantum Technologies**
- ELIE MOUNZER (DFKI GmbH, German Research Center for Artificial Intelligence)
[Project Q3-up](#)
 - THOMAS WELLENS (Fraunhofer Institute for Applied Solid State Physics IAF)
[Project AI4QT](#)

12:20 Break

SESSION 2: Quantum Sensing

- 13:30 **Quantum Sensing in Life Science**
- MIRKO IMLAU (Osnabrück University)
[Project quantumexpedition](#)
 - TOBIAS HAHN (NVision Imaging Technologies GmbH)
[Project QuE-MRT](#)
- 14:10 **NV Centers**
- STEFAN KÜCHEMANN (Ludwig-Maximilians-University Munich)
[Project GALaQSci](#)
 - PETER KNITTEL (Fraunhofer Institute for Applied Solid State Physics IAF)
[Project GRODIAQ](#)
- 14:50 **Diamond based Quantum Sensing**
- OLGA NOVGORODOVA (phaeno gGmbH)
[Project DiQuaMus](#)
 - NABEEL ASLAM (Leipzig University)
[Project DiamondNanoNMR](#)

17:00 **“WOMEN ONLY” BOOTH PARTY**

A1.140

20:00 Networking with snacks; mocktails and music for interested women

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THEMATIC PROGRAM OVERVIEW

TUESDAY, 24 JUNE, 11:30 – 16:10, (BMFTR-Booth)

Introduction to the BMFTR Skilled Workforce Agenda "Quantum Future Professionals"

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Keynote lectures and expert's panel. Afterwards, respective funding projects will present our two high-tech exhibits.

TUESDAY, 24 JUNE, 11:00 – WEDNESDAY, 25 June, 17:00

Qiskit Hackathon

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In cooperation with IBM Quantum and Messe München: Young and curious minds will program a quantum computer in a 24-hour challenge using the open-source software development kit 'Qiskit'. After the 24 hours, an expert jury will evaluate the outcome and select the winners.

A1.540

WEDNESDAY, 25 JUNE, 09:45 – 16:15 (BMFTR-Booth)

Quantum Future Research Groups & Meeting the Quantum Future Talents

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The leaders of the Quantum Future Research Groups will provide in three sessions the latest updates from their projects and share their career experiences with the community. Between the sessions there will be a Q&A session (15:00) with BMFTR Management and Alumni from the Quantum Future Academies and Awards (Quantum Future Insights) to address the needs of the new BMFTR Skilled Workforce Agenda "Quantum Future Professionals".

THURSDAY, 26 JUNE, 09:55 – 15.30 (BMFTR-Booth)

Research meets Outreach

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Selected projects funded within the BMFTR outreach, open innovation and education initiative "Quantum Aktiv" as well as funded research and development projects from the high-tech sector will give tandem talks with topical synergies in Quantum Computing, Quantum Informatics and Quantum Sensing.



THURSDAY, 26 JUNE, 9.30 – 17:00

Innovation Journey – Leading Women in Quantum (by invitation only)

Women in leadership and key roles in photonics and quantum technologies will connect through exclusive guided tours and booth visits at the exhibition. Networking with alumni of the Quantum Future Insights program will follow in a World Café setting.

THURSDAY, 26 JUNE, 17:00 – 19:00, (BMFTR-Booth)

‘Women Only’ booth party

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Networking with snacks; mocktails and music for interested women.

ALL DAY DURING TRADEFAIR (BMFTR-Booth)

Networking, lectures, exhibits and consulting for research funding on BMFTR-Booth

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The BMFTR will be represented with an exhibition space of over 200 square meters, featuring its own lecture program (see above) and numerous exhibits from projects funded under the “Quantum Aktiv” initiative (outreach, open innovation, education). In addition, exhibits from selected funded research and development projects will be presented along with information and advisory services regarding BMFTR research funding in the fields of photonics and quantum technologies.

TUESDAY, 24 JUNE – THURSDAY, 27 JUNE

Quantum Future Insights (by invitation only)

Alumni meeting of past Quantum Future Academies and Awards with exclusive guided tours, booth visits and networking with “Leading Women in Quantum” (see above) in a World Café setting.