

## #TechDiplomacyTalks

***Kick-off Event of the Quantum #TechDiplomacyTalk series:***

***“Beyond the Digital Age: Dimensions of #TechDiplomacy in a Quantum World”***

## #TechDiplomacyTalk: “Introduction to Quantum#TechDiplomacy – Geopolitics, Innovation, Governance and Ethics”

Friday, 24 January 2025, 14:00-17:00 CET, at Minoritenplatz 8, 1010 Vienna

Hybrid event in English, available on BMEIA YouTube channel

### Context:

Emerging deep tech technologies, such as quantum, AI, biotechnology, have become critical factors in the global geopolitical rivalry on political, military and economic power through technology supremacy: Hence the need for diplomacy to understand better these new technologies and their implications for international relations. The International Year of Quantum Science and Technology 2025 proclaimed by the United Nations provides a perfect opportunity for broad stakeholder discussions and joint reflections in order to understand quantum technology better, anticipate policy responses and build quantum-ready societies. This is why the Austrian Foreign Ministry, together with the Austrian Excellence Cluster Quantum Austria (QuantA) and the Innsbruck Quantum Ethics Lab of the University of Innsbruck have joined forces to provide a multistakeholder and multidisciplinary platform for analysis and discussion of the multiple dimensions of technologies from a holistic and comprehensive foreign and security policy perspective.

The technical capabilities of quantum technologies have the potential to offer benefits to our economies and societies but also harbour some serious ethical, societal, technological, peace and security as well as human rights risks. While still in their early stages of development – and thus (partly) far from hitting the commercial markets – it is crucial to anticipate possible benefits and risks and reflect on possible governance principles in order to guide the responsible development and application of quantum technology and to harness its positive transformative potential for the achievement of the Sustainable Development Goals.

The #TechDiplomacyTalk: “Introduction to Quantum#TechDiplomacy – Geopolitics, Innovation, Governance and Ethics” purports to introduce the main dimensions of quantum technologies from a foreign and security policy perspective, as it will be further expounded in deep dives in further talks. It will include a discussion of the geopolitical dimension, the security dimension, in terms of both the implications for peace and security, the military and defence sector and cybersecurity. It will also provide a first understanding of the transformational potential for industries, innovation and start-up ecosystems followed by an enquiry into the challenges of market development and commercialisation. Finally, it will look into the question of governance and ethics, providing an overview of current governance initiatives.

## Programme:

### Introductory Key Notes

- Director General Ambassador Elisabeth Kornfeind: *Welcome and Introduction by BMEIA – Why #TechDiplomacy in a Quantum World? What are the objectives and goals of the Austrian MFA*
- Key Note Prof. Gregor Weihs (quantA): *introduction to the Austrian quantum ecosystem*
- Key Note Prof Tommaso Calarco (European Quantum Community Network): *Introduction to European quantum research and politics: where do we stand? - a geopolitical appraisal*

### Panel: moderated by Claudia Reinprecht, BMEIA

- Francesca Ferlaino: *Introduction to Quantum Technology and its Use Cases*
- Daniel Wurm-Hikes: *Security and Defense Aspects of Quantum Technologies*

- Thierry Botter (TBC): Understanding the transformational potential for industries, innovation and startups
- Astrid Böttiger: *Geoeconomics – economic security, market development and commercialisation*
- Matthias C. Kettemann: *Introduction to Quantum Governance, Ethics and the Law*

## About the Speakers:

**Gregor Weihs:** Gregor Weihs is Vice-Rector for Research at the University of Innsbruck, Professor of Photonics at the Institute for Experimental Physics and Head of the Board of Directors of the Cluster of Excellence Quantum Science Austria (quantA)

**Tommaso Calarco:** A full professor at the University of Cologne since 2018 and at the University of Bologna since 2023, Director at Forschungszentrum Jülich GmbH, he leads the EU Quantum Community Network, which brings together theorists and experimental groups as well as science and industry.

**Francesca Ferlaino:** Francesca Ferlaino is a Professor at the Institute for Experimental Physics of the University of Innsbruck and one of the Research Directors at the Institute for Quantum Optics and Quantum Information (IQOQI-Innsbruck) of the Austrian Academy of Science.

**Thierry Botter:** is the Executive Director of the European Quantum Industry Consortium (QuIC), a pan-European industry association with more than 175 members dedicated to supporting and strengthening quantum companies on the global stage.

**Matthias C. Kettemann** is Professor of Innovation, Theory and Philosophy of Law, head of the Department for Theory and Future of Law at the University of Innsbruck, founder of the Innsbruck Quantum Ethics Lab and Rapporteur for the UNESCO COMEST report on Quantum Computing ethics.

**Daniel Hikes-Wurm:** Colonel Daniel Hikes-Wurm is Senior Advisor for Defence Policy in the Directorate General for Defence Policy of the Federal Ministry of Defence.

**Astrid Bötticher:** Astrid Bötticher is a political scientist and researcher (PhD) writing her Habilitation at the University of Jena. She is founder and head of the Quantum Humanities Network that led to a joint research consortium that aims to analyse the development and diffusion of quantum technology in Europe.