

» Outreach Talk for the General Public «

# At the Dawn of the Second Quantum Revolution



## Jürgen Mlynek

Professor Emeritus, Humboldt University of Berlin,  
Chair of the Strategic Advisory Board of the European Quantum Flagship

**Date and time: Monday 8 July 2019, at 17:00**

**Location: Sala 1, Fundação Calouste Gulbenkian, Lisbon**

Note: Entrance is free. No registration is necessary.

### Abstract:

*Quantum physics was created in Europe in the first decades of the twentieth century by a generation of young physicists who are now household names, like Einstein, Schrödinger and Curie. They have fundamentally changed our understanding of how light and matter behave at extremely small scales. Their discoveries have also deeply impacted our daily life: Breakthrough technologies resulting from the first quantum revolution were, for example, the transistor and the laser, without which current computers, mobile phones and the Internet would be unthinkable.*

*One hundred years on, superposition and entanglement have proved to be some of the most ground-breaking concepts in physics. Meanwhile the global race to reap the benefits of previously untapped quantum effects is becoming ever fiercer. To retain scientific leadership in this field, the European Commission has launched an ambitious initiative with €1 billion funding and a 10-year time horizon. Called the Quantum Flagship, the project aims to place Europe at the forefront of the second quantum revolution now unfolding worldwide, bringing transformative advances to science, industry and society.*

*The lecture will offer an overview of the historical context, the status quo and the new horizons of developments in Europe. Furthermore, it will provide a global outlook on how economic powerhouses like the USA and China are seeking to pave the way for breakthroughs in quantum technology.*

### Organized by:

*Physics of Information and Quantum Technologies Group, Instituto de Telecomunicações*

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**For more information, see: [phys-info.org/outreach-talk-juergen-mlynek](https://phys-info.org/outreach-talk-juergen-mlynek)**