**From Lasers for Quantum Technologies to Optical Clocks**

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Since decades, lasers have enabled scientific research in the field of quantum technologies. Nowadays, they are the key engines of many quantum technology-based instruments such as quantum computers and quantum sensors. I will present use cases for lasers in such instruments – like quantum computers or optical quantum clocks – and discuss the related importance of the optical or technical characteristics of the lasers. Since features like footprint, ease of use, and uptime are becoming more and more important for the usability of quantum technology instruments, I will sketch the evolution of lasers with this respect, introduce the current industry standard of rack-based laser systems, and show future development paths. Finally, I will report on the realization of a rack-based, transportable optical clock with relative frequency instability and accuracy at the 10-17 level, which relies on the availability laser rack systems that have been introduced earlier in the presentation.

**Short Bio:**

**Juergen Stuhler** is Vice President and Head of the Business Unit Quantum Technologies at TOPTICA Photonics AG (Germany), Chairman of TOPTICA Photonics China, and General Manager of TOPTICA Photonics SAS (France, ex Azurlight Systems). He joined TOPTICA in 2006 after more than 10 years in academic research on quantum optics (physics Phd in Constance/Germany, postdoc at LENS in Florence/Italy, atom optics group leader in Stuttgart/Germany).