

Symposium Quantum Communication: Promises or Reality? (SYQC)

jointly organized by
 the Semiconductor Physics Division (HL),
 the Low Temperature Physics Division (TT), and
 the Quantum Information Division (QI)

Tobias Heindel
 Technische Universität Berlin
 Quantum Communication Systems Group
 Hardenbergstraße 36
 10623 Berlin
 tobias.heindel@tu-berlin.de

Doris Reiter
 TU Dortmund
 Fakultät Physik
 Otto-Hahn-Str. 4
 44227 Dortmund
 doris.reiter@tu-dortmund.de

Vikas Remesh
 University of Innsbruck
 Department of Experimental Physics
 Technikerstr. 25d
 6020 Innsbruck, Austria
 vikas.remesh@uibk.ac.at

Quantum communication holds immense promises in revolutionizing secure information transfer and has captivated researchers and industry professionals worldwide. At its core lies quantum key distribution (QKD), an influential technique that harnesses the fundamental principles of quantum mechanics to enable secure key exchange. The success of quantum communication hinges on the availability of single or entangled photons, which can be generated through processes such as spontaneous parametric down conversion or on-demand from solid-state quantum emitters. However, to bring quantum communication into practical real-world applications, it is imperative to optimize and control the photon generation process. Moreover, the efficient transmission and reception of the quantum signals must be seamlessly integrated into advanced photonic structures, ushering in a new era of secure and efficient communication.

Overview of Invited Talks and Sessions

(Lecture hall H 0105)

Invited Talks

SYQC 1.1	Fri	9:30–10:00	H 0105	Efficient Quantum Dot Micropillars for Quantum Networks — DAVID DLAKA, PETROS ANDROVITSANEAS, ANDREW YOUNG, QIRUI MA, EDMUND HARBORD, ●RUTH OULTON
SYQC 1.2	Fri	10:00–10:30	H 0105	Superconducting Single Photon Detectors - Limited only by the laws of physics — ●ANDREAS FOGNINI
SYQC 1.3	Fri	10:45–11:15	H 0105	Laser triggering of quantum light sources using engineered optical pulses — ●KIMBERLEY HALL
SYQC 1.4	Fri	11:15–11:45	H 0105	Quantum Networks and Technologies — ●ROB THEW

Sessions

SYQC 1.1–1.4	Fri	9:30–13:00	H 0105	Quantum Communication: Promises or Reality?
--------------	-----	------------	--------	--