



QUANTERA CALL 2021 FINAL SEMINAR – Parallel sessions

DAY 1 – 28 September, 15:30–17:00

Physics
Department

1A — Communication I

InQuRe - Field testing an integrated quantum repeater node
Prof Joerg Wrachtrup, Dr Vadim Vorobev, University of Stuttgart

QuantaGENOMICS - Quantum Enabled Secure Multiparty Computation for Genomic Medicine
Prof Eleni Diamanti, CNRS & Sorbonne University

uTP4Q - A versatile quantum photonic IC platform through micro-transfer printing
Mr Jasper De Witte, Ghent University

VERIQTAS - Verification of quantum technologies, systems and applications
Prof Remigiusz Augusiak, CFT, Polish Academy of Sciences

DISCO - Dicke-enhanced single-emitter strong coupling at ambient conditions as a quantum resource
Prof Ortwin Hess, Trinity College Dublin, The University of Dublin

QD-E-QKD - Quantum Dots for Entanglement-based Quantum Key Distribution
Prof Rinaldo Trotta, Department of Physics, Sapienza University of Rome

E2TPA - Exploiting Entangled two-photon absorption
Dr Rob Thew, University of Geneva

Biozentrum

1B — Computation I

EQUIP - Error Correction for Quantum Information Processing
Dr Valentin Savin, Quobly - video presentation

PhoMemtor - Photonic Quantum Memristor Networks
Mr Iris Agresti, University of Vienna

DQUANT - Dissipative Quantum Chaos Perspective on Near-Term Quantum Computing
Prof Pedro Ribeiro, Instituto Superior Técnico - University of Lisbon

SIQCI - Scalable Architecture for Ion-Trap Quantum Computing Integration
Dr Juris Ullmanis, Alpine Quantum Technologies GmbH

SiQUOS - Superconducting Silicon Qubit in CMOS Technology
Dr François Lefloch, Commissariat à l'énergie atomique et aux énergies alternatives (CEA)

SuperLink - Superconducting quantum-classical linked computing systems
Prof Giovanni Piero Pepe, Università di Napoli Federico II & CNR SPIN



QUANTERA CALL 2021 FINAL SEMINAR – Parallel sessions

DAY 2 – 29 September, 09:00–11:00

Physics
Department

2A — Metrology

Mf-QDS - Microfluidics Quantum Diamond Sensor
Prof Javier Prior Arce, Universidad de Murcia

SensExtreme - Quantum sensing with diamond defects at extreme conditions
Prof Jean-Francois Roch, ENS Paris-Saclay

SQUEIS - Squeezing-Enhanced Inertial Sensing
Dr Luca Pezzè, Consiglio Nazionale delle Ricerche (CNR-INO)

QuRAMAN - Quantum enhanced Raman spectroscopy for bioimaging applications
Dr Mikael Lassen, Danish Fundamental Metrology A/S

LEMAQUME - LEvitated MAgnets for QUantum Metrology
Dr Andrea Vinante, Consiglio Nazionale delle Ricerche (CNR)

SPARQL - Sequential parametric amplification: quantum technology with multimode light
Prof Avi Pe'er, Bar Ilan University

QuSiED - Quantum simulation with engineered dissipation
Dr Lorenzo Rossi, The Institute of Photonic Sciences (ICFO)

Biozentrum

2B — Communication II + Computation II

EQUAISE - Enabling QUAntum Information by Scalability of Engineered quantum materials

Prof Antonio Polimeni, Dipartimento di Fisica, Sapienza Università di Roma

CVSTAR - Continuous-Variable Multi-User Quantum Key Distribution for 5G and distributed storage applications

Prof Tobias Gehring, Technical University of Denmark - video presentation.

MOCA - Integrated microwave to optical conversion on a superconducting atom chip
Prof Jozsef Fortagh, University of Tübingen

HQCC - Hybrid Quantum Classical Computation
Prof Andris Ambainis, University of Latvia

MAGMA - Magnetic topological insulators for robust Majorana bound states
Prof Thomas Schmidt, University of Luxembourg

QOPT - Quantum algorithms for optimization
Prof Aleksandrs Belovs, University of Latvia



QUANTERA CALL 2021 FINAL SEMINAR – Parallel sessions

DAY 2 – 29 September, 13.45–15:30

Physics
Department

3A — Information & Simulation

T-NISQ - Tensor Networks in Simulation of Quantum matter
Dr Pietro Silvi, Padua University

MENTA - Accessible Quantifiers of Multipartite Entanglement in Atomic Systems
Dr Christoph Westbrook, Laboratoire Charles Fabry de l'Institut d'Optique Graduate School

TOBITS - Non-Abelian anyons for topological qubits
Dr Jakub Tworzydło, Faculty of Physics, University of Warsaw

ExTRaQT - Experiment and Theory of Resources in Quantum Technologies
Dr Alexander Streltsov, Institute of Fundamental Technological Research, Polish Academy of Sciences

MQSens - Quantum sensing with nonclassical mechanical oscillators
Prof Yiwen Chu, ETH Zürich

QATACOMB - Quantum correlations in Terahertz qcl COMBs
Dr Luigi Consolino, Consiglio Nazionale delle Ricerche (CNR-INO)

DYNAMITE - Next Generation Quantum Simulators: From DYNAMical Gauge Fields to Lattice Gauge Theory
Prof Maciej Lewenstein, The Institute of Photonic Sciences (ICFO) -video presentation.

Biozentrum

3B — Computation III

STAQS - Shortcuts to Adiabaticity for Quantum Computation and Simulation
Dr Glen Mbeng, University of Innsbruck

ARTEMIS - Neural networks controlling superconducting quantum circuits
Prof Benjamin Huard, Ecole Normale Supérieure de Lyon

ConSpiQuOS - Controlling Spins in Quantum systems in an Online Setting
Mr Jonatan Kutchinsky, Quantum Machines/Qdevil

NimSoQ - New Imaging and control Solutions for Quantum processors and metrology
Dr Anna Kaminska, Creotech Quantum S.A. - video presentation.

QuantumGuide - Hollow-core fiber atom guide for quantum devices
Dr Juris Ullmanis, Alpine Quantum Technologies GmbH

MAESTRO - Mastering Technologies for Scalable Spin-based Solid-State Quantum Processors
Dr Mario Bähr, CIs Forschungsinstitut für Mikrosensorik GmbH