



QNetworks 2023 International Workshop

Glasgow, 28-29 September 2023

Schedule

Thursday 28 September

11:00 – 12:00 Registration
12:00 – 13:00 Lunch

13:00 – 14:50	Session 1: International Quantum Networking Initiatives Chair: Carmen Palacios-Berraquero, Nu Quantum
13:00 – 13:10	Tim Spiller, Hub Director, welcoming address
13:10 – 13:30	Jianwei Pan, University of Science and Technology of China (online): Towards a global quantum network
13:30 – 13:50	Hannes Hübel, Austrian Institute of Technology (AIT): EUROQCI – The European Quantum Communication Network
13:50 – 14:10	Davide Calonico, Istituto Nazionale di Ricerca Metrologica (INRIM), Italy: Quantum communication and metrology: converging technologies in real world
14:10 – 14:30	Jerry Horgan, Walton Institute for Information and Communication Systems Science, Ireland, Quantum technology research at Walton Institute
14:30 – 14:50	Jonathan Legh-Smith, UK Quantum (online): The UK Quantum Network Infrastructure Pilot
14:50 – 15:00	Final Questions

15:00 – 15:30 Coffee break

15:30 – x 17:20	Session 2: Quantum Communications – the perspective from Industry Chair: Harriet van der Vliet, Oxford Instruments & UKQuantum
15:30 – 15:50	Takeshi Umeki, NTT Device Technology Laboratories, Japan: PPLN-based optical parametric amplifiers and their quantum applications
15:50 – 16:10	Catherine White, BT: Opportunities for quantum communications to deliver value in real industrial use cases
16:10 – 16:30	Dan Llewellyn, PsiQuantum: Quantum computing with silicon photonics
16:30 – 16:50	Andrew Shields, Toshiba: Deploying scalable quantum networks
16:50 – 17:10	Chris Erven, KETS: Building a Standardised Quantum Networking Architecture
17:10 – 17:20	Sam Johnson, Innovate UK: Opportunities for commercialisation of scalable quantum network technologies in the UK
17:20 – 17:30	Final Questions

17:30 Day 1 END

Friday 29 September

08:45 – 09:10 Morning coffee

09:10 – 11:00	Session 3: Quantum Communications Technologies for Different Applications Chair: Richard Penty, University of Cambridge
09:10 – 09:30	Sima Bahrani, University of Bristol: Network considerations for distributed quantum computing
09:30 – 09:50	Caterina Vigliar, DTU: High-Dimensional Entanglement Distribution
09:50 – 10:10	Reza Nejabati, University of Bristol: Quantum Data Centre of the Future
10:10 – 10:30	Christine Silberhorn, Paderborn University, Germany (online): Nonlinear integrated quantum devices
10:30 – 10:50	Mina Doosti, University of Edinburgh: New Resources for Quantum Communication: Exploring Quantum Hardware Security
10:50 – 11:00	Final Questions

11:00 – 11:30 Coffee break

11:30 – 13:15	Session 4: Towards next generation quantum networks Chair: Adrian Wonfor, University of Cambridge
11:30 – 11:50	Prem Kumar, Northwestern University, USA: Engineering Challenges for the Emerging Quantum Networks
11:50 – 12:10	Mehdi Namazi, Qunnect: Practical distribution of useful entanglement in metropolitan areas
12:10 – 12:30	Alessandro Fedrizzi, Heriot-Watt University: Quantum group key encryption with a network advantage
12:30 – 12:50	Eleni Diamanti, CNRS, France: Demonstrating quantum advantage for advanced cryptographic protocols
12:50 – 13:10	Ciara Rafferty, Queen's University Belfast: Developments in post-quantum cryptography for quantum-safe communications
13:10 – 13:15	Final Questions

13:15 – 14:00	Lunch
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14:00 – 16:00	Session 5: Quantum Communications in Space Chair: Andy Vick, RAL Space
14:00 – 14:20	Rebecca Harwin, RAL Space: SPEQTRE – developing a quantum key distribution CubeSat
14:20 – 14:40	Paolo Villorresi, University of Padova, Italy (online): Advanced tools for Space Quantum Communications
14:40 – 15:00	Elizabeth Eso, Heriot-Watt University: Designing an efficient optical ground receiver for satellite quantum communications
15:00 – 15:20	Daniel Oi, University of Strathclyde: System optimisations, trade-offs, and finite-size effects in satellite quantum key distribution
15:20 – 15:40	Katanya Kuntz, University of Waterloo, Canada (online): QEYSSat – Canada's first quantum communication satellite
15:40 – 15:50	Final Questions
15:50 – 16:00	Tim Spiller, University of York/Hub Director: Closing Remarks

16:00 Day 2 END

