



## Programme

09:30 - 10:30 Registration and refreshments

10:20 - 10:30 Welcome by conference chair

### Session 1: Solid state quantum computing architectures

10:30 - 11:00 **(Invited) A crossbar network for silicon spin qubits**  
Menno Veldhorst, QuTech, Delft University of Technology, Netherlands

11:00 - 11:20 **Solid state quantum simulators**  
Abolfazl Bayat, University College London, UK

11:20 - 11:40 **Comparison of gate fidelities between different qubit architectures defined in silicon quantum dots**  
Marco De Michielis, CNR-IMM-Agrate Unit, Italy

11:40 - 12:00 Refreshments

### Session 2: Classical control electronics for solid state quantum computing

12:00 - 12:30 **(Invited) Cryo-CMOS Electronics for Scalable Quantum Computing**  
Fabio Sebastiano, Delft University of Technology, Delft, Netherlands

12:30 - 12:50 **Conditional dispersive readout of a CMOS quantum dot via an integrated transistor circuit**  
Simon Schaal, University College London, UK

12:50 - 13:10 **Controlling electron and phonon energy fluxes in suspended semiconductor-superconductor junctions**  
Mika Prunnila, VTT Technical Research Centre of Finland Ltd, Finland

13:10 - 14:30 Lunch, exhibition and posters

### Session 3: Quantum computing with dopants in silicon

14:30 - 14:50 **Non-destructive imaging of atomically-thin nanostructures buried in silicon**  
Neil Curson, London Centre for Nanotechnology, UK

14:50 - 15:10 **Erbium implanted silicon for solid-state quantum technologies**  
Mark Hughes, University of Salford, UK

15:10 - 15:30 **Coherent superpositions of multiple eigenstates for Si:P prepared using THz radiation**  
Steven Chick, University of Surrey, UK

15:30 - 15:50 **An extended Hubbard model for mesoscopic transport in donor arrays in silicon**  
Nguyen Le, University of Surrey, UK



15:50 - 16:20 Refreshment break

## Session 4: Qubit implementation and control

- 16:20 - 16:50 **(Invited) CMOS hole spin qubits in silicon**  
Yann-Michel Niquet, University Grenoble Alpes & CEA INAC-SPSMS, France
- 16:50 - 17:10 **A silicon-based single-electron interferometer coupled to a fermionic sea**  
Anasua Chatterjee, London Centre for Nanotechnology, UK
- 17:10 - 17:30 **Long decoherence time in Silicon Isolated Double Quantum Dot charge qubits at 4.2 K**  
Aleksy Andreev, Hitachi Cambridge Laboratory, UK
- 17:30 - 17:40 Closing remarks
- 18:30 - 21:00 Conference dinner (Optional)

## Poster programme

- P1. Continuous-time quantum computing**  
Vivien Kendon, University of Durham, UK
- P2. Many-body effects in 1D degenerately-doped silicon nanowire device**  
Muhammad M. Mirza, University of Glasgow, UK
- P3. Electron transport in top-down fabricated silicon nanowires using relaxed and scalable nanofabrication**  
Nivedha Radhakrishnan, University of Glasgow, UK
- P4. Quantum interference effects in degenerately doped silicon nanowire junction-less transistors**  
Felix J. Schupp, University of Oxford, UK
- P5. Modelling of the electronic states of silicon quantum dots through DFT & TD-DFT methods**  
Nicolas Iacobellis, Université Libre de Bruxelles
- P6. A quantum interference capacitor**  
Anasua Chatterjee, Hitachi Cambridge Laboratory, UK
- P7. High-Q lumped-element resonators for gate-based dispersive readout**  
Imtiaz Ahmed, Hitachi Cambridge Laboratory, UK
- P8. Double-dot exchange-only qubit dynamics in presence of environmental noise**  
Elena Ferraro, CNR-IMM-Agrate Unit, Italy