

## Superconducting Quantum Devices 2017 – SQD17

Tuesday 12th September 2017

Faraday Lecture Theatre

Lancaster University

Lancaster LA1 4YB

### Programme

10.30 Refreshments available

10:50 Introduction

11.00 Talk 1

Malcolm Connolly, Center for Quantum Devices, University of Copenhagen

A 2DEG gatemon qubit

11.25 Talk 2

Alessandro Romito, Lancaster University

Thermodynamics along individual trajectories of a superconducting quantum bit

11.50 Talk 3

Andrew Patterson, University of Oxford

High fidelity two-qubit control of coaxmons

12.15 Talk 4

Themis Mavrogordatos, UCL

Rare quantum fluctuations in the strongly dispersive Jaynes-Cummings oscillator

12:40 Talk 5

Joseph Allen, University of Surrey

Robust optimal control of superconducting qubits

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13:05 Lunch and posters, Physics Atrium

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14.30 Talk 6

Jacob Dunstan, Royal Holloway

On the instability of the flux configuration in SQUID arrays

14.55 Talk 7

Connor Shelly, NPL

Hybrid Quantum Interference Devices (HyQUIDs) in bifurcation mode as a quantum readout

15.20 Talk 8

Dmitry Morozov, University of Glasgow

Titanium nitride kinetic inductance detectors for passive terahertz imaging

15.45 Talk 9

Kaveh Delfanazari, University of Cambridge

On-chip hybrid superconducting-semiconducting circuits for scalable topological quantum computing

16.10 Talk 10

Shaun Geaney, NPL

The design of a near-field scanning microwave microscope operating in the quantum regime

16.35 Talk 11

Jeremy Good, Cryogenic Ltd.

High field SQUID magnetometers

17.00 End, refreshments available

### **Poster presentations**

13:05 – 14:30

Atrium, Physics Department, Lancaster University

1. Tianyi Li, UCL

Ballistic Josephson junctions based on CVD graphene

2. Tom Godfrey, UCL- LCN

Investigating microwave properties of nanobridge based Josephson junctions fabricated by Xe focused ion beam

3. Sebastian de Graaf, NPL

Reducing  $1/f$  noise in superconducting resonators by desorption of surface spins

4. Sebastian de Graaf, NPL

Duality and the charge quantum interference device

5. Peter Spring, University of Oxford

Coherence and control in double-sided coaxial circuit QED

6. Martin Esposito, University of Oxford

Towards single shot readout in double-sided coaxial circuit QED

7. Connor Shelly, NPL

Suitability of nanobridges for Josephson junction elements in superconducting circuits

8. Robert Heath, University of Glasgow

Waveguide-integrated superconducting single photon detectors for on-chip quantum information processing

9. Alex Jones, Lancaster University

On-chip nuclear demagnetisation cooling of electrons in a nanoelectronic device

10. Jon Fenton, UCL

Influence of shunting environment on coherent quantum phase-slips in superconducting nanowires