## Seminar/Talk

# A programmable two-qubit quantum processor in silicon

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Host: Georgios Katsaros

Electron spins confined to quantum dots in silicon are promising qubits for quantum information as they have long coherence times due to the low abundance of nuclear spins in the silicon substrate which cause decoherence. Furthermore, silicon can be isotopically purified to have almost no nuclear spins, leading to orders of magnitude increase in coherence times. In this talk, I will discuss ongoing experiments where we have demonstrated the initialisation, readout, and universal control of two coupled single electron spin qubits confined to a Si/SiGe double quantum dot. I will show that this device is fully programmable and can be used to run simple two-qubit quantum algorithms.

**Tuesday, April 4, 2017 11:30am - 12:30pm**
Seminar room Ground floor / Office Bldg West (I21.EG.128)

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