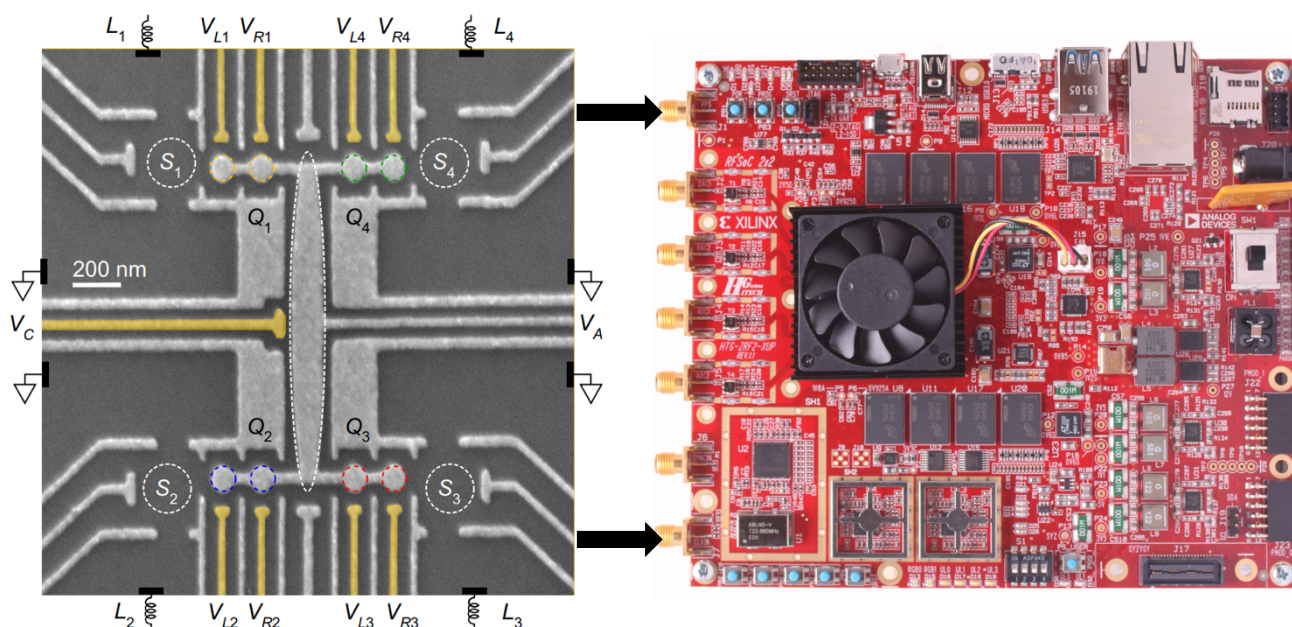




Master (or Bachelor) Project at Center for Quantum Devices

Fast High-Fidelity Qubit Readout

Are you inclined towards hands-on projects and have you always had a fascination for tinkering with electronics and programming? A Masters Project is available in the Center for Quantum Devices for you. The project aims to apply advanced electrical engineering, signal processing and programming techniques to improve the speed and latency of readout of quantum processors. The student will program a state-of-the-art Field Programmable Gate Array board to read radio-frequency signals that encode the state of a quantum bit (“qubit”), implemented in the spin of a single electron in a quantum dot. The goal of the project is to react to such readout signals received in the shortest possible time ($<1\mu\text{s}$), before the qubit loses its information.



Some background in quantum information, condensed matter physics, FPGA and/or Python programming, will help with getting started, but more important is an open-minded hands-on approach in the lab.

You will learn the physics of semiconductor qubits, quantum information and of course scientific reading and writing. Work with the the best equipment on a problem that the world cares about and become an experimental scientist!

If this sounds interesting contact

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See all QDev student projects here: