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A full stack implementation of a superconducting qubit processor

In this presentation, we will describe the work we currently do in QuTech in collaboration with Intel. We are working on the full stack implementation of the system design of a superconducting quantum processor. This processor will be used as an accelerator connected to a classical computer. We also use this design to steer the semiconducting quantum processor. In addition, we investigate the long term and scalable challenges that we need to solve to make any kind of quantum co-processor.

Speaker Biography

Koen Bertels is professor and head of the newly created Quantum and Computer Engineering department in the faculty of Electrical Engineering, Mathematics and Computer Science. His research focuses on hardware/software co-design for heterogeneous multi-core platform and he investigates alternative computing architectures and technologies. Since 4 years, he is heavily focusing on quantum computing. In that sense, he started a new section called Quantum Computer Architecture Lab and is currently a principal investigator for architectural design in the TUDelft quantum research lab, QuTech.

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