



In **FoQaCiA**, we will expand the theoretical basis for the design of quantum algorithms.

Our view is that the future success of quantum computing critically depends on advances at the most fundamental level, and that large-scale investments in quantum implementations will only pay off if they can draw on additional foundational insights and ideas.

While several powerful quantum algorithms are known, the basic techniques they employ are few and far between.

FoQaCiA focuses on four areas of quantum phenomenology:

- + Quantum contextuality, non-classicality, and quantum advantage;
- + The complexity of classical simulation of quantum computation;
- + Arithmetic of quantum circuits;
- + The efficiency of fault-tolerant quantum computation.

PARTNERS



Stockholm University



uOttawa

about the project

