

QuantaGENOMICS

Quantum Enabled Secure Multiparty Computation for Genomic Medicine



The QuantaGENOMICS project will provide the proof that quantum technologies can play a major role in solving the conflict between privacy and utility of collecting and mining huge quantities of individuals' data.

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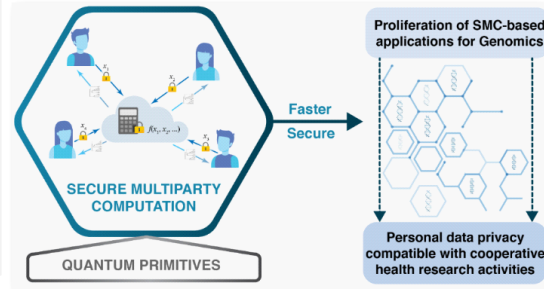
Consortium



- We are replacing the classical oblivious transfer (OT) implementation by a quantum-enabled OT in secure multiparty computation (SMC) protocols, leading to a solution that is both fast and secure, even against quantum computer attacks.

Technologies currently being explored for quantum oblivious keys generation:

- Continuous variables
- Discrete variables
- Entanglement



- On top of the quantum-enabled SMC protocol, we are going to develop a privacy-preserving data mining service involving a particular genomic medicine use case.



Proj. Coordinator

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Project duration

May 2022 – April 2025

Website

quantagenomics.av.it.pt/



Partners

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- INRIA [André Chailloux]
- Ophiomics [José Leal]
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