A white letter and orange cubes on a black background

Description automatically generated with low confidence

Call for Quantum Application Development 2023 (QAD 2023)

Purpose of the call

**QAL invites researchers who want to explore the use quantum computers for their scientific use cases to apply for in-kind contributions from QAL members!**

The knowledge and technological developments in quantum computing have increased impressively over the last years. Big and small companies, governments and researchers from different fields are all wondering: what can we do with quantum computers? Are they useful for our problems? When should we expect them to give some advantage?

At QAL, we are interested in supporting the development of use cases and applications in different fields. We want to understand: how quantum computers could benefit an application? What type of algorithms can we use? What are the requirements and bottlenecks of implementing and executing these use cases? etc. In order to explore these questions, we are looking to further engage with academic use cases and learn together what quantum computing can do for your research!

Guidelines for proposals

A competitive proposal should:

1. State a clear near term use case or application using current quantum computing technology
2. If any, explain what are the current (classical) bottlenecks of the use case (why could quantum computing be a solution?)
3. Commitment of the applicants for a total of 0.2 FTE (i.e. 1d per week) for the duration of the project.

What QAL offers

QAL is a newly formed public-private R&D partnership that offers a unique team of scientists, researchers, engineers, application developers, software and hardware specialists in a leading platform to explore and bring to market the benefits of quantum computing.  QAL will support proposals with:

1. In-kind support for the development and implementation of the use case (~0.5 FTE)
2. Access to quantum hardware and emulators
3. Consultancy and discussions with the whole QAL team
4. Access to QAL network and workshops

Who can apply

Applicants need to have a contract in one of the eligible organizations (Appendix A) for the duration of the project. Master, PhD students and Postdocs are encouraged to apply but need the explicit support of their supervisors.

Selection process

A committee composed by a representative of each of the QAL members will review the proposals. The selection criteria will be based on:

1. concreteness of the application
2. readiness (usage of existing hardware)
3. societal relevance
4. scientific novelty

How to apply

Please fill in the proposal template [link] and send it to [info@quantumapplicationlab.com](mailto:info@quantumapplicationlab.com) before **1st of September 2023 14:00 ECT**.

Questions ? Contact[info@quantumapplicationlab.com](mailto:info@quantumapplicationlab.com)

Deadline **1st of September 2023 14:00 ECT**.

Appendix A - Eligible Organizations

Universities

Erasmus Universiteit Rotterdam

Open Universiteit Nederland

Protestantse Theologische Universiteit

Radboud Universiteit Nijmegen

Rijksuniversiteit Groningen

Technische Universiteit Delft

Technische Universiteit Eindhoven

Theologische Universiteit Apeldoorn

Theologische Universiteit Kampen

Universiteit Leiden

Universiteit Maastricht

Universiteit Twente

Universiteit Utrecht

Universiteit van Amsterdam

Universiteit van Tilburg

Universiteit voor Humanistiek

Vrije Universiteit Amsterdam

Wageningen Universiteit en Researchcentrum

University Medical Centers

Amsterdam UMC, locatie AMC

Amsterdam UMC, locatie VUMC

Erasmus MC

Leiden UMC

Maastricht UMC+

Radboud UMC

UMC Groningen

UMC Utrecht

KNAW-institutes

Hubrecht Instituut voor Ontwikkelingsbiologie en Stamcelonderzoek

Huygens ING

Internationaal Instituut voor Sociale Geschiedenis

Koninklijk Instituut voor Taal-, Land- en Volkenkunde

Meertens Instituut

Nederlands Herseninstituut

Nederlands Instituut voor Ecologie

Instituut voor Oorlogs-, Holocaust- en Genocidestudies

Nederlands Interdisciplinair Demografisch Instituut

Westerdijk Fungal Biodiversity Institute

NWO-institutes (NWO-I)

AMOLF, Physics of Functional Complex Matter

Advanced Research Center for Nanolithography

Netherlands Institute for Radio Astronomy

Centrum Wiskunde & Informatica

Dutch Institute for Fundamental Energy Research

Nikhef - Nationaal instituut voor subatomaire fysica

Koninklijk Nederlands Instituut voor Onderzoek der Zee

Nederlands Studiecentrum Criminaliteit en Rechtshandhaving

Netherlands Institute for Space Research