

Evaluation guidelines and process

**Danish Quantum Algorithm Academy
Evaluation Committee**

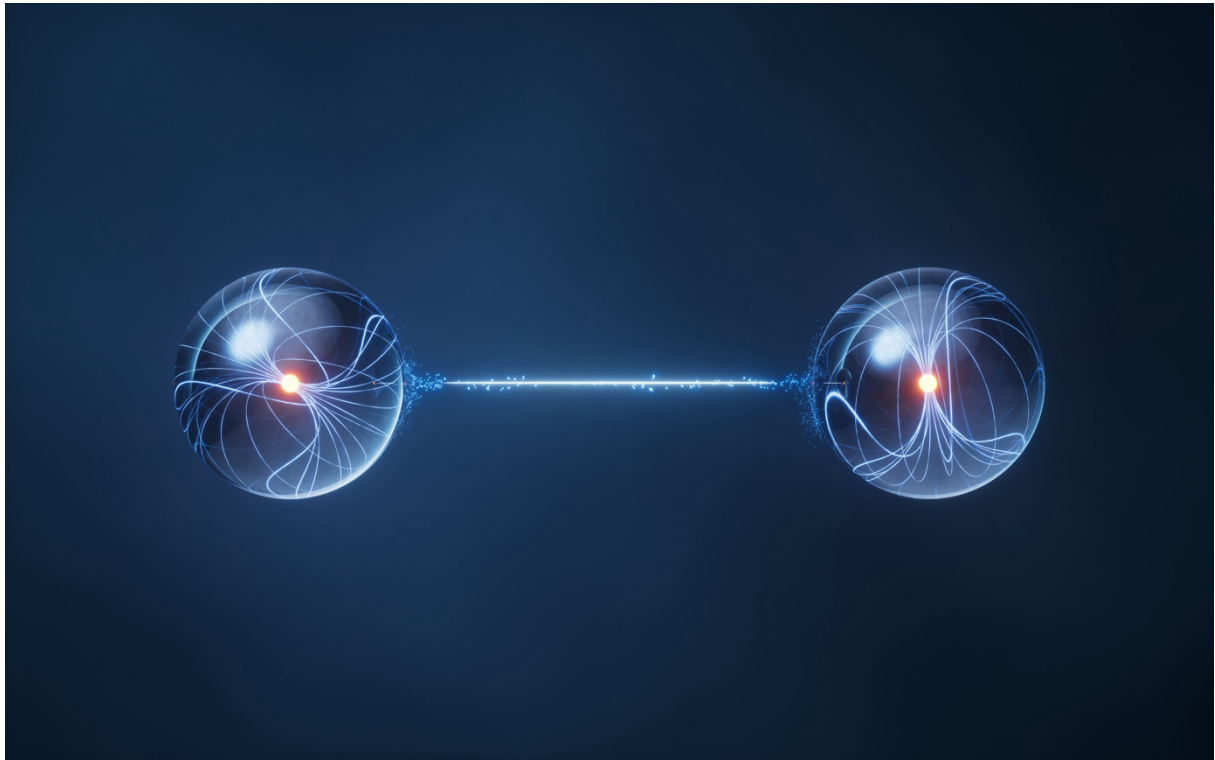


Table of content

Content and purpose	3
Procedure after the application deadline	3
Evaluation procedure steps	3
Allocation of applications for evaluation	6
Guiding criteria for selection and ranking	7
Preparation of the prioritized list	8
Procedure after final decision	10

Content and purpose

This document serves as a practical, step-by-step process description for the designated evaluation committee in the Danish Quantum Algorithm Academy (DQAA) under DeiC, for handling applications.

More information:

- DQAA: <https://www.deic.dk/da/q-algorithm>
- DeiC Quantum Infrastructure: <https://www.deic.dk/da/quantum-infrastructure>

The purpose is to ensure a visible and transparent process with consensus on the approach.

The document will be updated and detailed as needed.

Procedure after the application deadline

All applicants will receive a brief email from DeiC informing them that their application is now being treated confidentially following the deadline and that they should expect approximately five months of processing time.

The process, from the deadline to the final response to applicants, is expected to take about five months. This timeframe accommodates the evaluation and other procedural steps. The specific deadline will be discussed after an initial review by the evaluation committee, depending on factors such as the number of applicants and the content of the applications.

Once a final decision deadline is determined, this will be communicated to the applicants.

Evaluation procedure steps

Frame of the evaluation:

- For the evaluation of applications to DQAA, a pool of 15 high level subject-matter experts from Danish universities has been designated. One of these experts has been selected by the DeiC Board to serve as the chair of the evaluation committee.
- The active evaluation committee for each application round is assembled based on the required expertise and considerations of impartiality (as addressed in the section below).
- After each application deadline, the appointed evaluation committee will receive an email with a link to a secure DeiC Teams site where the applications and other relevant materials are available.
- For security reasons, the evaluation committee members will use their WAYF emails (the Trust and Identity service used by universities). This means the email provided by their primary employing university will be utilized.
- The evaluation committee members and any external reviewers must familiarize themselves with and adhere to this document.

Meetings:

After deadline for each quantum call the DeiC Quantum department will convene an initial meeting with the evaluation committee to establish consensus on the process and determine the deadline for the final evaluation.

From this point onward, the evaluation committee, led by the appointed chair of the evaluation committee takes responsibility for the evaluation process. This includes:

Planning and conducting necessary internal meetings and procedures for the evaluation committee (with DeiC Quantum department participating in these meetings). Typically, these include:

- Follow-up online meeting on process and allocation of projects: 1.5 hours.
- Final full-day meeting where projects are selected.

Regarding conflicts of interest:

Legal framework:

The rules governing conflicts of interest are based on the **Danish Public Administration Act** and relevant administrative law principles.

Key situations indicating potential conflicts of interest:

These include but are not limited to the following scenarios:

1. Personal or financial interest:

The individual has a particular personal or financial interest in the outcome of the case, e.g., if they are an applicant or directly involved in the application.

2. Representation in the same case:

The individual has previously acted as a representative or advisor for an applicant in the same case, e.g., by providing guidance on the application.

3. Close Relations:

The individual has close personal or family relationships (e.g., spouse, immediate family members, or close relatives) with someone who has a personal or financial interest in the case or represents such a person. This includes close friends or cohabiting partners.

4. Doubt About Impartiality:

Circumstances exist that could cast doubt on the individual's impartiality, such as close friendships or animosities.

For further details: **Danish Public Administration Act (Lovtidende 2014/433)**

Precautionary Principle:

Beyond the specific guidelines listed above, any evaluator who believes they might have a conflict of interest should raise the matter with the evaluation committee to determine whether they should withdraw from the evaluation process.

Special considerations for scientific funding applications:

Publications and financial relationships:

In the context of scientific funding applications, specific considerations regarding conflicts of interest include:

Joint Publications:

Co-authorships older than five years are generally not considered a conflict of interest. The committee will evaluate whether a small number (1–2) of recent joint publications constitutes a conflict. Evaluating one's own scientific publication always creates a conflict of interest.

Financial relationships:

It is permissible to evaluate applications from the same department, provided there is no direct shared interest (e.g., being part of the same research group where funding could directly benefit the evaluator)

DQAA code of conduct:

The code of conduct for DQAA follows the basic general rules and standards used by similar organizations e.g. The Novo Nordisk Foundation, and the principles within the Danish Code of Conduct for research conducted by The Ministry of Higher Education and Science. (<https://ufm.dk/publikationer/2014/the-danish-code-of-conduct-for-research-integrity>)

As such the document is not legally binding in itself but follows relevant Danish legislation. Some of the core elements being:

- The Danish criminal law (Straffeloven) regarding bribery - straffelovens § 122 and 144. (<https://www.retsinformation.dk/eli/lta/2021/1851>).
- The EU General Data Protection Regulation (GDPR) (<https://www.itgovernance.eu/da-dk/eu-general-data-protection-regulation-gdpr-dk>). E.g. regarding not to pass on personal information.

In that regard the following points are crucial for the evaluation committee as well as any external reviewers:

1. **Corruption and bribery.** DQAA is determined to maintain the highest standards of integrity and work ethics across all its activities and maintains a policy of zero tolerance of corruption and bribery in all forms. DQAA defines corruption as the abuse of entrusted power; and bribery as offering, promising, giving, accepting, or soliciting an advantage as an inducement for an action that is illegal, unethical or a breach of trust. Consequently, the DQAA evaluation committee and any external reviewer must never accept, give or promise gifts, hospitality or anything of monetary value that could be interpreted as intending to improperly influence a decision or which could unduly affect proper business judgment or otherwise raise concerns about integrity in the evaluation process.
2. **Confidentiality about the applications and process.** DQAA evaluation committee and any external reviewers may never distribute any information about the applicants or any information about the information received.

Breaches of the Code of Conduct

Any breach of the code of conduct will be reported to the DeiC board, and if necessary, any relevant authorities.

Furthermore, information of any breach will be send to other relevant stakeholders.

Allocation of applications for evaluation

Allocation of applications takes place over one or two meetings as mentioned above. The process is conducted openly during the meeting and is facilitated by the chairperson of the evaluation committee. Members assign applications based on their expertise.

Primary and Secondary Reviewers:

Each application is assigned a primary and a secondary reviewer. An overview of the assignments will be included in the scientific qualifications document in the secure DQAA teams site.

Possible involvement of external reviewers:

During the initial prescreening, the evaluation committee assesses the need for involving one or more of the designated external reviewers based on the applications' content and relevance.

If deemed necessary, the committee contacts the external reviewers to request their evaluation.

External reviewers are typically given 14 days to complete their evaluations, which are then submitted to the chairperson of the evaluation committee.

Guiding criteria for selection and ranking

1) Qualifications:

The applicant's overall background, competencies, and qualifications. For example, the validity of the applicant's academic qualifications relative to the specific application, or whether related work or field studies are validated or published.

2) Quality of the Application:

How well the applicant articulates the perspectives, realism, and form of the proposed work. For instance, are the calculation methods clear and transparent? If there are significant aspects the committee needs to guess or assume, this would lower the evaluation score.

3) Overlap with Existing Projects and Initiatives:

The extent to which the application appears to overlap with similar, already existing projects or initiatives.

4) Work Potential:

An assessment of how significant the project could be for the development of the quantum field. This evaluation also considers the potential versus experience balance. For example, an applicant with less experience might still demonstrate a proposal with significant potential to advance the quantum field in their specific area.

5) Realism:

Whether the application is assessed as realistic and feasible in terms of implementation. For instance, if the application lacks clarity in how it addresses the use of quantum computers or seems overly ambitious without sufficient concrete planning.

6) Relevance:

Whether the application is directly related to quantum algorithms in line with the specific call's objective (practical applicability to quantum). For example, if an application is mathematically oriented but does not clearly demonstrate a link to quantum algorithm development, it may be deemed less relevant.

Preparation of the prioritized list

By the agreed deadline for final evaluation, the committee prepares a prioritized list of applicants during the concluding selection meeting.

Prioritization considerations:

The prioritization accounts for potential changes in applicants' availability, such as accepting other offers.

Three Key Recommendation Principles:

1. Candidates recommended for approval as the top priority.
2. Candidates recommended for approval if sufficient funds are available.
3. Candidates recommended for rejection.

Ranking Scale:

Applicants are further ranked within categories using the following grading system:

- A+, A, A-
- B+, B, B-
- C

Applications graded A+, A, or A- are eligible for funding.

Applications graded B+, B, or B- may receive funding if resources permit.

Applications graded C are generally not considered for funding.

Reviewers' Responsibilities:

Each reviewer prepares a proposed grade (A+, A, A-, B+, B, B-, C) for every application they reviewed before the final meeting.

Discussion Process:

Applications are reviewed one by one during the final meeting:

- The primary reviewer presents the application and their proposed grade.

- Committee members debate and assign grades.

Conflict of Interest:

It should not be necessary at this stage. But if a member at this point has a conflict of interest with a specific application, they leave the room during the grading discussion. Conflicts are documented in the DQAA document - Conflict of Interest list on the closed DQAA teams site.

Finalizing the prioritized list:

The final prioritized list is reviewed by all committee members to reach agreement. If initial consensus is not achieved, an average of the differing grades is assigned.

Tiebreakers:

- Applications graded A+ are finalized without adjustments.
- Applications graded A are ranked through a written vote, excluding votes from members with a conflict of interest.
- Applications graded A- are subject to a similar process.

Iterative adjustments:

Pairwise comparisons are conducted within A- rankings, with the subset of non-conflicted members discussing whether to reorder specific applications. This continues until no further swaps are made.

Cross-category evaluation:

The highest-ranked application in A- is compared to the lowest in A to determine if any adjustment is needed.

Submission of the prioritized projects:

After discussions and agreement within the evaluation committee, the recommendation is sent via e-mail to the DeiC board chairperson by the evaluation committee's chair, with the DeiC Quantum Chief copied in the email. This includes the following documents:

- **Scientific Qualifications**
- **Conflict of Interest** (where the prioritization of applicants is also noted). The chairperson will confirm whether immediate consensus has been reached.

After approval documents are sent to the DQAA council for approval, who typically has one week to respond. It should be clear whether the chairperson recommends the council to approve the proposal.

The DQAA Council is not required to comment on the scientific prioritization; therefore, the applications are not included.

The request is to assess:

- Whether the process has been conducted in a responsible manner in accordance with the applicable guidelines described in this document.
- Whether conflict of interest has been appropriately addressed.
- Whether the submitted material raises any concerns regarding administrative matters.

Following this, the DeiC Quantum Chief sends the recommendation to the DeiC board for approval. The board typically has one week to respond.

The board is not expected to comment on the technical prioritization, so the applications themselves are not necessary. However, to provide a complete overview, the final list include the host university and gender of the applicants.

It should be clear whether the chairperson recommends the board to approve the proposal.

The Board Chairperson will reply via email to the evaluation committee's chairperson, with the DeiC Quantum Chief copied. DeiC will then issue acceptance and rejection letters.

Procedure after final decision

After coordination with the evaluation committee, DeiC will formally notify all applicants individually about the outcome of their application.

The acceptance and rejection letters will not delve into specific or complex elements that influenced the evaluation. However, all applicants will be informed about their general final rating (A, B, or C). The letters will also include the general guiding criteria outlined in the current process description, which form the basis for the evaluation.