CALL FOR APPLICATIONS

Postdoc Scholarship on Quantum Algorithms or Quantum Software

DeiC National Quantum Algorithm Academy
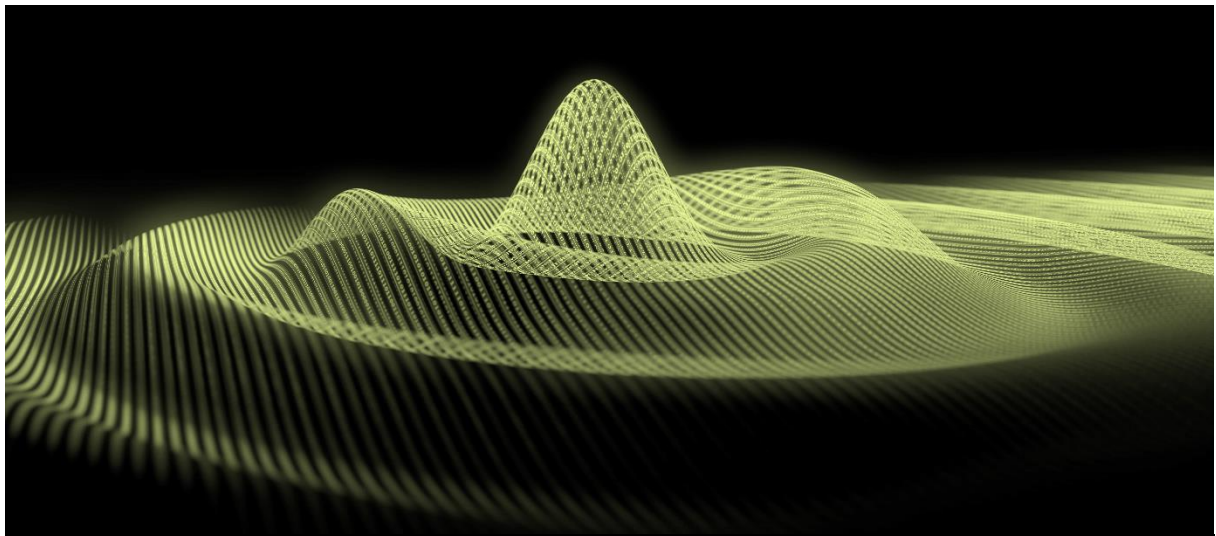
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                      www.deic.dk

1. Information about the call

Application in eGrant form opens:
7th of November 2024

Application deadline:
7th of January 2025

Applicant notification:
Mid-April 2025

Earliest start date
1st of June 2025

Latest start date
1st of December 2025

Evaluation committee:
National Quantum Algorithm Academy Evaluation Committee

Contact:
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Head of quantum, DeiC
Email: Henrik.sonderskov@deic.dk

For more information about the DeiC.
https://www.deic.dk
https://deic.dk/da/quantum-infrastructure

Guideline version
2024.01

2. Background and implementation

In the Danish National Strategy on Quantum Technology part 1, DeiC is appointed to initiate activities "In order to support Denmark fully using access to quantum computers and supercomputers (HPC facilities) for the benefit of Danish research and innovation in the quantum field"[i]. In other words, to support the development of the next generation of algorithms and software related to future quantum computers and quantum simulators.

The DeiC board of directors has therefore decided to create "Danish Quantum Algorithm Academy" (DQAA). The academy will award scholarships on PhD and postdoc level to establish a national ecosystem for development of algorithms and software.

The PhD students and postdocs will be employed at the Danish universities or in Danish private companies (business PhD and business postdocs).

In addition to organizing the scholarship program, DQAA will manage a national coordinating function, with for instance support for workshops, meetings, a guest program, a sabbatical program, and other instruments which can boost a national quantum infrastructure.

The DQAA scholarship program will have 2 annual calls in 2024. In future years one annual call is expected.
They can be applied for by researchers from the traditional STEM fields and by researchers from other fields such as health science, social sciences, and humanities. Interdisciplinary applications are welcome.
All calls will be in free and open competition.

The call for the first two programs opened in February 2024 with:

- fully funded 3-year PhD Scholarship grants to be applied for by associate professors or full professors at Danish universities.

- fully funded 2-year Postdoc Scholarships to be applied for by PhDs.

The stipends are scheduled to begin in 2024.

The programs opening now are concerning a number of

- fully funded 3-year PhD Scholarships to be applied for by associate professors or full professors at Danish universities.

- Business PhD scholarships.

- fully funded 2-year Postdoc Scholarships to be applied for by PhDs.

- 2-year business Postdoc Scholarships to be applied for by PhDs.

The calls will be posted through DeiC communication channels (website, social media and newsletter), direct mails to the Danish universities and for the postdoc calls through relevant scientific newsletters.

Both PhD students and Postdocs must be affiliated with a Danish university as host university for the scholarship.

3. Postdoc Scholarship on Quantum Algorithms or Quantum Software

DQAA is offering 2 years fully funded Postdoc scholarships in the areas of Quantum Algorithms or Quantum- Software.

As a rule, a researcher can only have one (business) PhD student funded from DQAA at a time.

The Postdoc project shall develop, study or test quantum algorithms, related software and their applications.

The scholarship is required to begin in 2025 and is conditioned on the successful Postdoc applicant possessing a PhD degree not older than five years before commencing the scholarship. Exceptions, such as maternity leave of military service, may be accepted if motivated and documented in the application.

Scholarships can be awarded to perform research within the traditional STEM fields or within other fields such as health science, social sciences, and humanities. Interdisciplinary projects are welcome.

The application must include a budget completed and signed by the host institution. The budget must be entered in the budget template.

The application must include a tentative estimate of the required access to quantum computing and HPC resources. Access to a selection of quantum computer systems, quantum simulators and HPC-systems will be negotiated as part of the DeiC Q-Access program.

In connection with the application, the applicant must be affiliated with a Danish university and have an affiliated mentor from this university. The mentor should be a senior member of the relevant departments academic staff and will be responsible for the applicant's professional development in the grant period.

The successful awardee and the mentor(s) become members of the DQAA and have the obligation to participate in activities related to the academy, e.g., working groups, schools, meetings, dissemination etc. and in general to contribute to the advancement of the Danish Quantum Algorithm community.

4. Application guidelines

These guidelines are intended to assist you in the application process when applying for the PhD scholarship grant from DQAA.

It is important that you carefully read these guidelines before initiating the application process, as the guidelines contain the complete call text as well as instructions regarding the application.

DQAA will treat all applicant and application information confidentially, using the national grant system eGrant. Read more (in Danish) about personal data collection in e-Grant in general and on how long your data is stored in e-Grant. (https://ufm.dk/forskning-og-innovation/tilskud-til-forskning-og-innovation/e-ansogningssystemer/databeskyttelse-i-e-grant-og-dine-rettigheder).

Application content
This section provides guidelines on the content required in the sections of the online application form for this call.

DQAA is committed to promoting diversity in all its aspects. Therefore, all potential applicants, regardless of their academic field, ethnicity, religion, gender identity, or age, are encouraged to apply for the fund's resources.

Applicants
This section contains information about all those involved with the application, meaning the Postdoc applicant, the mentor as well as any co-applicants. Information about each applicant is collected through individual fields, detailing experience, publication history etc.

Postdoc applicant

Information	Guidelines
Full name	
Title	
Phone Number	
Work email address	
Date of birth	
Nationality	
ORCID number	
Workplace and address	If the applicant is not currently employed at the host institution of the project, the application should clearly state, that the applicant will be employed at the host institution if the grant is received
CV	(PDF) Please provide a brief CV, max 2 pages, with details of relevant educational and research experience. Specify what masters programme you have graduated from.
PhD Degree	(PDF) Upload PhD degree or letter from PhD supervisor. The postdoc applicant should possess the PhD degree or provide adviser estimate of the completion date
Publication list	(PDF) Please provide a list of up to 10 most relevant publications for evaluating your experience. Include a complete specification of all authors for each publication with your own name highlighted. This document is solely for written publications authored by the applicant. Exhibitions and other non-written publications should not be included in this document. Include a link to full publication list in ORCID).

Supplementary information	(voluntarily) Use this field to make the review committee aware of any special circumstances regarding your application that the committee should be aware of. Please do not include any personal information of sensitive character (ie illness, family conditions etc).

Mentor(s) of Applicant

Information	Guidelines
Full name	
Title	
Phone Number	
Work email address	
CPR-no	
Nationality	
ORCID number	
Affiliation/university	The mentor must be from a Danish university
Department	
Department address	
Website	
CV	(PDF) Please provide a brief CV, max 2 pages, with details of relevant educational and research experience. The CV must include a link to a full CV.
Publication list	(PDF) Please provide a list of up to 10 most relevant publications for evaluating your experience. Include a complete specification of all authors for each publications with your own name highlighted. This document is solely for written publications authored by the applicant. Exhibitions and other non-written publications should not be included in this document. Include a link to full publication list in ORCID).

Host institution

Information	Guidelines
Host university	The host university must be a Danish university
Adress	
Department	(PDF) Description of the department the Postdoc will be associated with
Leader of the administrating department	The person who will sign the grant agreement
Work email	
Phone number	
Administrative contact for the grant (Full name)	
Work email	
Phone number	

Proposal

Describe the suggested project for the PhD candidate providing the following information

Information	Guidelines
Project title	Maximum 150 characters, including spaces
Executive summary of project	Please provide a stand-alone summary of the project, describing its purpose, target group and activities. The summary must be suitable for publication. Maximum 2.000 characters including spaces.

Project description	(PDF max 4 pages, including illustrations and references) Describe the project in detail here. The description can include purpose, hypothesis, methodology and relevance for the purpose of the call.
Description of mentor/role in project	(PDF) 1 page
Project planning	(PDF) 1 page
Estimate of required access to Quantum Computing and HPC resources	(PDF max 1 page). Describe the estimated required access to Quantum Computing and HPC resources for the project.
Reference letters	(PDF) max 3 references This is meant as potential project support letters meaning the reference letters concerns the project, not the applicant. As such it should be seen as possible recommendations of the suggested project.

5. Evaluation procedure and selection process

Key criteria for the assessment of applications

The application must be submitted via eGrant, www.e-grant.dk.

The application will be evaluated according to the following criteria:

1. The experience of the applicant and mentor.
2. The scientific value of the project.
3. Relevance to the scope of the call.

Deadline for applications:
Material received after the deadline will not be considered. If the required material is incomplete, the application will be rejected administratively.

The deadline for this call is 7th of January 2024.

Evaluation process
We expect the evaluation process to be finished by Mid-April2025.

Evaluation committee
The evaluation committee is a group of 5 people with strong research experience in the relevant areas. Members are selected after the application deadline from a group of 15 subject matter experts. This optimizes discipline coverage and minimizes conflicts of interest.
The committee makes a short list of the received applications. Each application on the list will be assessed by 3 experts.

The committee makes recommendations to the DeiC Board who makes the final decision.

Appeals.
According to Ministerial Order no. 615 of 29 May 2023 (Ministerial Order on Danish e-Infrastructure Consortium's Tasks and Organization, etc.) paragraph 18, decisions on the management and allocation of funds for digital research infrastructures and on the research network, including the allocation of computation time, cannot be appealed to another administrative authority.

6. About Danish e-Infrastructure Consortium (DeiC)

The Danish e-infrastructure Consortium (DeiC) is tasked with the mandate to develop and coordinate cooperation on digital research infrastructure between universities covered by the Danish University Act.

DeiC's vision is that researchers at the Danish universities must have access to a digital infrastructure that enables research and education at a high international level.

Other relevant institutions with educational and research activities can participate in the collaboration after approval by DeiC's board.

DeiC's board consists of members at management level from the eight Danish universities, who all have a mandate from their own university. In addition, the Rectors College appoints a board chairman for DeiC.

DeiC's legal basis is described in executive order BEK 615 of 26/05/2023.

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[i] Strategy for Quantum Technology June 2023
Part 1 – World-Class Research and Innovation