

Niels Bohr Quantum Summer School

Join a summer school program for Ph.D. students, where cutting-edge research meets real-world innovation.

The program welcomes both Danish and international Ph.D. students providing a unique international perspective.

Niels Bohr Quantum Summer School

Inspiration to shape the Future

Niels Bohr Institute – Copenhagen – Denmark

11 – 22 August 2025

Apply here:

Follow:



quantumsummer.dk



A part of a national initiative

The Niels Bohr Quantum Summer School is a direct result of the Danish National Quantum Strategy, published in 2023. The summer school is therefore designed to showcase the entire Danish quantum ecosystem, aligning with the strategy's objective of fostering a robust and innovative quantum sector in Denmark.

In its first year, the summer school will be held in Copenhagen at the historic Niels Bohr Institute.

Future installments will rotate among other universities in Denmark in the following sequence:

2026: University of Southern Denmark

2027: Technical University of Denmark

2028: Aalborg University

The summer school is organised by:



**INNOVATION
CENTRE
DENMARK**



AARHUS UNIVERSITY



Welcome

Join the Niels Bohr Quantum Summer School and be part of a journey of learning, discovery, and cultural immersion, where cutting-edge research meets real-world innovation.

The program welcomes both Danish and international Ph.D. students providing a unique international perspective.

At this summer school, you will learn from leading scientists and industry professionals at the forefront of quantum technologies.

The program opens the gateway for you to immerse yourself in academic excellence, while offering a vibrant cultural and social experience.

This is a unique opportunity to connect with like-minded peers and industry leaders, expanding your professional network across borders and professional paths.

Who can attend?

Students pursuing a Ph.D. in physics, mathematics, chemistry, computer science, or related fields, who already have some foundational knowledge of quantum mechanics and wish to deepen their understanding.

Students from USA, Israel, South Korea and Germany are given priority, as these countries are specifically highlighted in the Danish National Quantum Strategy and all host Danish Innovation Centres.

Note that a high proficiency in English is required.

How to apply?

Fill out the signup form at the application quantumsummer.dk and attach the following documents in a single PDF-file.

Use the file name format: HomeUniversity_FirstName_LastName.pdf:

- Letter of motivation (max one A4 page)
- CV
- Recommendation letter from your Ph.D. supervisor

Accomodation

Participants will be staying in private rooms at Cabinn Copenhagen, Arni Magnussons Gade 1, 1577 Copenhagen. From here you can get to the Niels Bohr Institute either via metro, bus or in 'Copenhagen style' on bike.

Each hotel room is 12 m² and features a private bathroom, a small kitchen with a refrigerator, a microwave and an electric kettle.

The hotel also provides access to a shared kitchen, laundry facilities, and a fitness center.

The hotel serves continental breakfast, which is included in your stay.

The hotel is located near the beach in Copenhagen V, a convenient area of Copenhagen with excellent shopping opportunities and popular attractions such as the Tivoli Gardens and Copenhagen Zoo.

Earliest check-in to the hotel is Sunday 10 August at 15:00 CET.

Learn more at cabinn.com/hotel/cabinn-copenhagen



Photo credit: VisitCopenhagen

Application process

The summer school aims to enroll 35 Danish students and 35 international students. Among the international applicants priority will be given to students from the USA, Israel, South Korea, and Germany, as these countries are highlighted in the Danish National Quantum Strategy and host Danish Innovation Centres. Applicants from other countries mentioned in the Danish National Quantum Strategy will be considered next followed by students from the EU or Nordic countries.

The summer school evaluation committee will carefully review all applications. Selections will be based on academic qualifications, and motivation. The process also aims to ensure a balanced and inclusive group, reflecting diversity in backgrounds, disciplines, and perspectives.

Important dates

- 03 March 2025:
Application portal closes at 23:59 CET
- 20 March 2025:
Letters of acceptance or rejection are sent
- 10 August 2025:
Arrival day
- 11 August 2025:
Summer school starts
- 22 August 2025:
Summer school ends

Practical information

If you are accepted as a participant we will charge a sign-up deposit of DKK 2000 (approximately \$ 279 or € 269) , which will be returned to you upon your completion of the summer school.

The summer school is funded by the Danish Ministry of Higher Education and Science as well as company sponsors.

This means that tuition, accommodation, planned social activities and most meals (except dinner) will be covered.

If your Ph.D. grant does not include funding for travel, you may apply for reimbursement of travel expenses up to DKK 5,000 including VAT, (approximately \$697 or €670)

Course

As a participant you will dive into a range of topics like:

- quantum information
- quantum computing theory
- quantum systems
- quantum & AI

The program will also feature pioneers sessions, allowing you to engage in discussions across generations.

Additionally, you will participate in a Student Challenge. Divided into groups based on your chosen topic, you will tackle hands-on projects in areas such as experimental realization, theory & simulations, algorithms & applications, business, and education & outreach.

The summer school is accredited by the University of Copenhagen and awards 5 ECTS upon completion.

The Niels Bohr Quantum Summer School also includes a social program designed to foster connections among the participants and introduce them to the buzzing city of Copenhagen.

Faculty

The Niels Bohr Summer School features an exceptional team of dedicated faculty members, all with extensive experience and strong expertise in quantum research.

See more at quantumsummer.dk

Lectures

The teaching methods combine lectures, case-based learning, and hands-on lab work to provide a dynamic and immersive learning experience.

Lecturers

Aashish Clerk, Professor, leader of the Pritzker School of Molecular Engineering, University of Chicago

Cathal Mahon, Chief Business Officer, Deep Tech Lab Denmark

Charles Bennet, Professor, IBM Fellow, IBM Research

Eliska Greplova, Associate Professor leader of the Quantum Matter and AI (QMAI) group at Kavli Institute of Nanoscience, Delft University of Technology

Giovanna Sammarco Tancredi, Senior Researcher, Quantum Technology, Microtechnology and Nanoscience, Chalmers Institute of Technology

Jaewook Ahn, Professor, Department of Physics, Korea Advanced Institute of Science and Technology

Jeffrey Grover, Research Scientist, Research Laboratory of Electronics Massachusetts Institute of Technology

Jonatan Kutchinsky, Vice President, Cryogenic Electronics, Quantum Machines

Marcus Rommel, Senior Research Engineer at Nanofabricationlab, MC2 at Chalmers University of Technology & Chief Technology Officer at Con-Science AB

Poul Erik Lindelof, Professor Emeritus, consultant in physics based archeology

Sabrina Maniscalco, Professor of Quantum Information, Computing, and Logic and Chief Executive Officer at Algoritmiq

William Oliver, Henry Ellis Warren (1894) Professor of Electrical Engineering and Computer Science & Professor of Physics, Massachusetts Institute of Technology

Wolfgang Dür, Professor of Theoretical Physics University of Innsbruck

Monday 11 August

09:00 - 10:00 Registration

10:00 - 12:00 Official opening of the summer school with reception

12:00 - 12:30 Students walk to Blegdamsvej

12:30 - 13:00 Welcome and practical information

13:00 - 14:00 Q Information William Oliver

14:00 - 14:15 Short Break

14:15 - 15:15 Q Information Jaewook Ahn

15:15 - 16:00 Transport to Kongens Nytorv

16:00 - 18:30 Guided tour through the streets of Copenhagen

18:30 - 21:00 Pizza and beer at NBI

Tuesday 12 August

09:00 - 10:00 Introduction to student challenge
Kim Splittorf

10:00 - 10:15 Short break

10:15 - 12:15 Q Information Jaewook Ahn

12:15 - 12:45 Lunch

12:45 - 14:45 Q Information William Oliver

14:45 - 15:45 Discussions

Wednesday 13 August

09:00 – 10:00 Q Systems Aashish Clerk

10:00 – 10:15 Short break

10:15 – 12:15 Q Systems Jeff Grover

12:15 – 12:45 Lunch

12:45 – 13:45 Discussions

13:45 – 17:10 “Hands-On” in Q Labs Kim Splittorf

Thursday 14 August

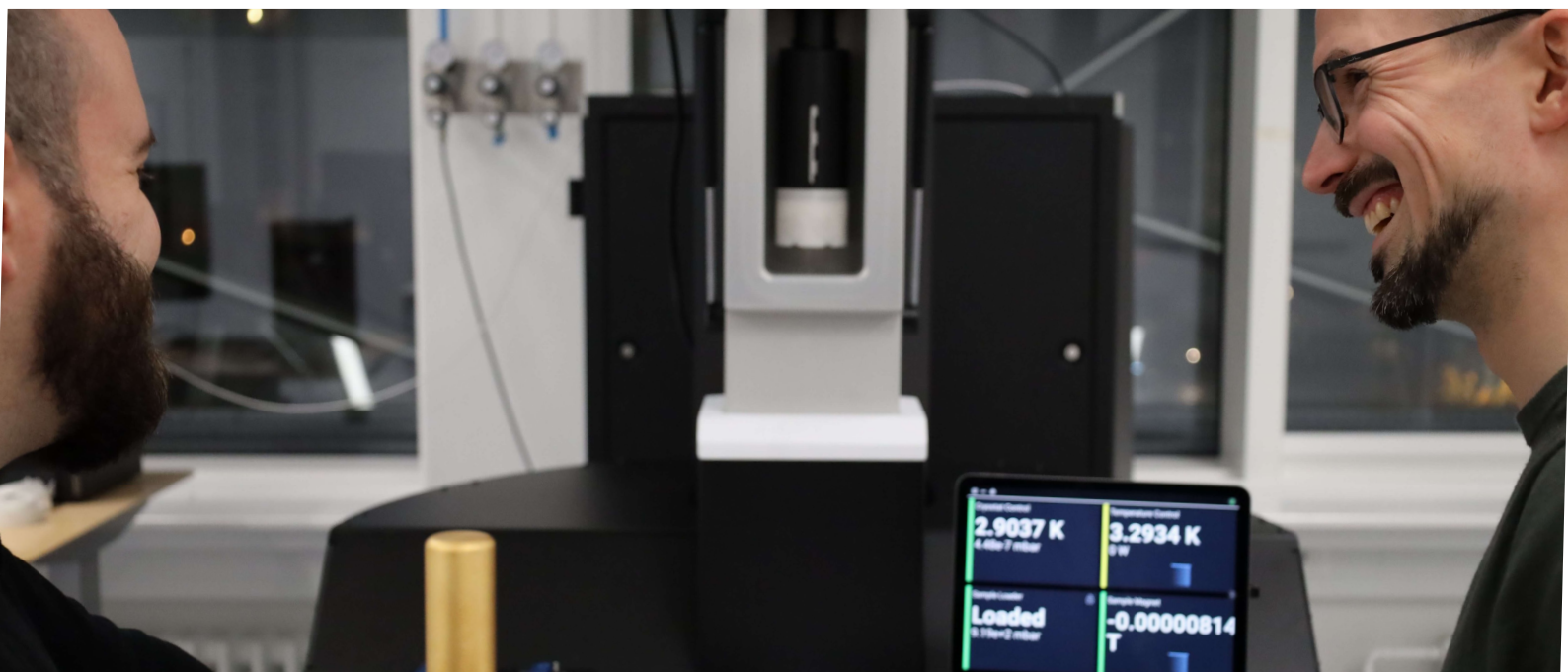
09:00 – 12:15 Hands on Q Labs
Kim Splittorf

12:15 – 12:45 Lunch

12:45 – 14:45 Q Systems Aashish Clerk

14:45 – 15:00 Short break

15:00 – 16:00 Q Systems Wolfgang Dür



Friday 15 August

09:00 - 11:00 Q Systems Wolfgang Dur

10:00 - 11:15 Short break

11:15 - 12:15 Q Systems Jeff Grover

12:15 - 12:45 Lunch

12:45 - 13:15 Discussions

13:15 - 17:00 Student poster session

Saturday 16 August

10:45 - 11:45 Transport to Ungdomsøen
Ferry leaves from Nyhavn at 11.15

11:45 - 14:30 Visit to Ungdomsøen laser game and other activities
Bring a towel and a bathing suit if you want to go swimming

We will be divided into two groups and will take turns in a laser game.

14:50 Sailing back to Nyhavn

Sunday 17 August

Sunday free to do your own thing ...

Monday 18 August

09:00 – 11:00 Q Pioneers Poul Erik Lindelof

11:00 – 12:00 Discussions

12:00 – 12:30 Lunch with pioneers

12:30 – 13:30 Q Pioneers Charles Bennett

13:30 – 16:00 Student challenges inputs from pioneers

19:30 – 21:00 Possible social activity:
Board games at Folkehuset Absalon

Tuesday 19 August

09:00 – 11:00 Q Pioneers Speaker TBC

11:00 – 12:00 Student challenge input from pioneers

12:00 – 12:30 Lunch with pioneers

12:30 – 13:30 Q and AI Eliška Greplova

13:30 – 13:45 Short break

13:45 – 14:45 Q Systems Giovanna Sammarco Tancredi

14:45 – 16:00 Discussions

Wednesday 20 August

09:00 – 11:00 Giovanna Sammarco Tancredi

11:00 – 12:00 Discussions

12:00 – 12:30 Lunch

12:30 – 14:30 Q and AI Eliška Greplova

14:30 – 16:00 Working with student challenge

Thursday, 21 August

09:00 – 10:00 DIANA Deep Tech Quantum
Cathal Mahon

10:00 – 10:15
5 Short break

10:15 – 11:15 Q Entrepreneurship
Jonatan Kutchinsky

11:15 – 11:30 Students walk to BioInnovation Institute (BII)

11:30 – 18:00 Industry event at BII starting with lunch
Marcus Rommel, Con-Science AB
Sabrina Maniscalco, Algorithmiq
and more to come ...

18:00 – 21:00 Farewell dinner

Friday 22 August

09:00 – 12:00 Student challenge presentations

12:00 – 12:30 Student challenge prizes

12:30 – 13:00 Lunch

13:00 – 16:00 Celebration and diplomas

The summer school is organised by:



**INNOVATION
CENTRE
DENMARK**



Course approval

The summer school is accredited by the University of Copenhagen.

Social programme

The Niels Bohr Quantum Summer School includes a social program designed to foster connections among the participants and introduce them to the buzzing city of Copenhagen.

Additionally you will receive a guide to explore the city and the local attractions independently during your free time.



Photo credit: VisitCopenhagen

Questions



If you have questions of any kind please reach out to the coordinator of the summer school.

Louise Juel Broch

louise.broch@deic.dk

+45 20709866

Send your application via our website quantumsummer.dk

