

Dot Pio

Quantum physicist, PhD Candidate in optical quantum computing, and Science educator.

dbepi@dtu.dk | [in linkedin.com/in/dotpio](https://www.linkedin.com/in/dotpio) | [DTU Research Profile](#)

EDUCATION

Technical University of Denmark (DTU) — PhD 2026 – present
Doctor of Philosophy in Quantum Computing, Quantum Physics & Information Technology (QPIT) Lyngby, Denmark
PhD position at the QPIT section, DTU Physics. Experimental generation of GKP states in collaboration with Harvard University and Keio University.

Technical University of Denmark (DTU) — MSc 2022 – 2025
Master of Science in Engineering — Quantum Engineering Lyngby, Denmark
Specialization in quantum physics and engineering. Grade average: 11/12

University of Copenhagen – The Niels Bohr Institute 2025
External stay – SQuID Laboratory Copenhagen, Denmark
Master's project: Two-qubit gates in superconducting quantum computing under supervision of Assoc. Prof. Morten Kjaergaard. Grade: 12/12

Technical University of Munich (TUM & MCQST) [🌐] 2023
External stay – Munich Center for Quantum Science and Technology Munich, Germany
Lab of Prof. Dominik Bucher (TUM); quantum sensing. Selected among 16 students out of 400 applicants internationally

Technical University of Denmark (DTU) — BSc [🌐] 2019 – 2022
Bachelor of Science in Engineering — Physics and Nanotechnology Lyngby, Denmark
Bachelor's project: Quantum sensing with NV-centres in diamonds, supervised by Prof. Alexander Huck. Grade: 12/12. (Honours-equivalent average)

University of California, Santa Cruz 2021 – 2022
Exchange Stay — Physics Engineering California, USA
Courses in Mathematics, Statistics, and a Physics laboratory course. Grades: A+ / B+ / A+

Summer Schools & Intensive Programmes

Digi-Q EFEQT Quantum Summer School 2024
Member of DigiQ — EFEQT (Empowering Future Experts in Quantum Technology) Universite de Technologie de Troyes, France

Digi-Q & DTU Light & Matter Summer School 2024
Quantum photonics and light-matter interaction Helsingør, Denmark

WOMANIUM — Global Quantum Computing & Entrepreneurship Programme 2022
Earned QBronze Certificate Remote/Global

Upper Secondary Education

Sukkertoppen Gymnasium (High school) [🌐] 2016 – 2019
Science study programme Copenhagen, Denmark
Grade average: 13.6 — highest national grade average in Denmark (all A+ except one A)

RESEARCH & WORK EXPERIENCE

CERN — European Organisation for Nuclear Research [🌐] [📧]

Short-Term Research Intern · Accelerators & Beam Physics Group (BE-ABP) · FCC-ee Project

Geneva, Switzerland

January 2026 – present

- Research focus: **Beam Position Monitoring (BPM)** for the **Future Circular Collider (FCC-ee)** — one of the most ambitious next-generation particle physics projects in the world, under direct supervision of **Jacqueline Keintzel**
- Presented research findings at the **FCC-ee Optics Tuning Meeting 2026** at CERN
- **Research paper in preparation — DOI pending.** Full citation to be updated in Publications section upon release.

Technical University of Denmark

Research Assistant — Quantum Physics & Information Technology (QPIT)

September 2025 – December 2025

Lyngby, Denmark

- Pre-PhD research in optical quantum computing. Simulated the experimental generation of GKP states using a cavity-QED system. Presented my results at the EQTC Conference.
- **Poster presentation at EQTC Conference — DOI: 10.5281/zenodo.18650302**

Technical University of Denmark — DTU Plasma Physics (PPFE)

Student Assistant — Fusion Energy, @fusionsenergi.dk

December 2024 – present

Lyngby, Denmark

Working with fusion energy research and outreach at the DTU Plasma Physics Department

SQUID Lab, University of Copenhagen

Volunteer Lab Assistant & Researcher — Superconducting Qubits

December 2023 – January 2025

Copenhagen, Denmark

Preliminary research with superconducting qubits in preparation for MSc thesis; lab partnered with MIT Engineering Quantum Systems Group

Science communication trip to ITER Organization [🌐]

Science Communicator — Plasma Physics & Fusion Energy Outreach

2025

Cadarache, France

Travelled to ITER (Southern France) for the *Fusion Energy for All* DTU–ITER collaboration; conducted exclusive researcher interviews and produced plasma physics outreach content

Technical University of Denmark (DTU)

Teaching Assistant — Advanced Engineering Mathematics 1

August 2020 – May 2024

Lyngby, Denmark

Taught introductory college-level mathematics to first-year engineering students across four years

OptoCeutics

Student Assistant — Healthcare Optics Technology

January 2023 – August 2023

Copenhagen, Denmark

Supported R&D at a healthcare company developing optics-based technology targeting Alzheimer's disease

Adina Technologies

Student Assistant — Nano-surfaced Dental Implants

August 2022 – December 2022

Copenhagen, Denmark

Contributed at a startup developing nano-surfaced dental implants for prevention of dental infections

LINX — Linking Industry to Neutrons & X-rays

Student Assistant — Science Writing, X-ray Physics

August 2020 – January 2021

Denmark

Wrote science articles about LINX research, primarily in X-ray physics

Restudy Aps

Online Tutor — High School Physics & Mathematics

April 2020 – October 2020

Remote

1-on-1 online tutoring of high school students via the Restudy learning portal

GRANTS & FUNDING

CERN Internal Fund (MAF) — Internal grant, CERN

2026

William Demant Foundation — Research and science communication grant

2025

KV Fonden — Recognition of contributions to women in physics for my external stay in California

2021

PUBLICATIONS

C=CONFERENCE, J=JOURNAL, P=PREPRINT, S=IN SUBMISSION

- [S.1] **Dot Pio**, Jacqueline Keintzel, et al. (2026). **Beam Position Monitoring Studies for the FCC-ee [Title TBC]**. *Manuscript in preparation*, Accelerators & Beam Physics Group (BE-ABP), CERN. DOI: pending registration — citation will be updated upon publication.
- [P.1] **Dot Pio** (2025). **Poster: European Quantum Technologies Conference (EQTC) 2025**. Zenodo. doi: 10.5281/zenodo.18650303

SCIENTIFIC PRESENTATIONS

- FCC-ee Optics Tuning Meeting — Research Presentation** 2026
CERN, Geneva, Switzerland
Presented BPM optics tuning research findings to the FCC-ee accelerator physics team at CERN
- European Quantum Technologies Conference (EQTC) 2025** [🌐] 2025
Poster Presentation
Poster published on Zenodo: zenodo.org/records/18650303
- MCQST Summer Bachelor Programme Colloquium** [🌐] 2023
Poster Presentation, Munich Center for Quantum Science and Technology (TUM)
Presented quantum sensing research at the programme-end colloquium

NOMINATIONS & AWARDS

- Women in Physics Prize — Nominee** [🌐] 2025
Kvinder i Fysik (Danish Association of Women in Physics)
Nominated for the annual Women in Physics Prize in recognition of research and science communication contributions
- Highest National Grade Average in High School** [🌐] 2019
Sukkertoppen Gymnasium — Physics study line
Achieved the highest grade average in Denmark (13.6); all A+ on transcript (except one A)

SERVICE & ORGANISING

- Organiser — Fusion Energy Summer Camp 2025** 2025
Technical University of Denmark (DTU)
Organised the Fusion Energy Summer Camp at DTU, bringing together students and researchers across fusion science [🌐].
- Founder & Board Member — IDA Physics** [🌐] March 2022 – March 2024
Danish Association of Engineers (IDA)
Founded the professional physics network IDA Physics within the Danish Association of Engineers; built a national community connecting physicists across academia and industry

OUTREACH & SCIENCE COMMUNICATION

- The Mindful Physicist — Blog, Community & Platform** [🌐] 2019 – present
Independent science communicator · Top 5 Physics Influencers worldwide (Feedspot)
Physics blog and Instagram community with **43,000+** science-engaged followers; advocates for diversity in STEM and communicates quantum physics to broad audiences
Hosts *The Mindful Physicist* Discord server — a networking platform for physicists and science enthusiasts
- Women in Physics (Kvinder i Fysik)** [🌐] 2024 – present
Network advocating for women in STEM worldwide
Featured interview published at kvinderifysik.dk on research, science communication, and women in physics
- ITER Fusion Energy for All — Outreach Travel** [🌐] 2025
ITER Organisation / DTU collaboration — Southern France
Travelled to ITER to produce plasma physics outreach content and conduct exclusive researcher interviews for the DTU-ITER *Fusion Energy for All* project

INVITED TALKS & COLLOQUIA

- International Day of Women in Science & Astronomy** [🌐] [🌐] March 2025
Rundetaarn (The Round Tower), Copenhagen — Invited Speaker
Delivered invited talk at the iconic Rundetaarn venue for the Women in Physics celebration of International Women's Day

PRESS & MEDIA

- DTU News — Intern at CERN** [🇩🇰] March 2026
Technical University of Denmark
Feature article covering my stay at CERN within the FCC-ee project, and the encouragement of DTU students to take up opportunities abroad
- Interview — Women in Physics** [🇩🇰] February 2025
Kvinder i Fysik
Full interview on research, science communication, and women in physics: kvinderifysik.dk
- Interview — MCQST: A Quantum Summer in Munich** [🌐] 2023
Munich Center for Quantum Science and Technology
Short interview published by MCQST following participation in the Summer Bachelor Programme
- DTU News — Quantum Sensors Research** [🇩🇰] June 2023
Technical University of Denmark
“Quantum sensors can offer completely new opportunities” — bachelor project featured in DTU news
- Live Television Appearance — AFTENSHOWET** [🇩🇰] 2019
DR — Danmarks Radio (Danish National Television)
Live on-air debate with Prof. Svend Brinkmann (psychology) on youth academic pressure; national broadcast
- Newspaper Article — Highest National Grade Average** [🇩🇰] 2019
Ugeavisen Nørrebro
Featured for achieving the highest grade average in Denmark (13.6)

SKILLS & COMPETENCES

- Programming:** Python (Qiskit, SciPy, NumPy, Pandas, Matplotlib, Seaborn, SymPy, scikit-learn, QuTiP), MATLAB, Maple, COMSOL, Athena, LaTeX, HTML, JavaScript
- Physics:** Quantum physics, Quantum information, Experimental physics, Quantum sensing (NV-centres), Superconducting qubits, Accelerator physics, Fusion energy
- Lab & Design Tools:** Autodesk Inventor, Adobe InDesign, Canva, Microsoft Office, Logger Pro 3.8
- Communication:** Science writing, public outreach, media appearances, community building
- Languages:** Danish (native), English (fluent), German (elementary)

PROFESSIONAL MEMBERSHIPS

- DigiQ / EFEQT** — Empowering Future Experts in Quantum Science & Technology for Europe 2023 – present
- IDA Physics (Founder), Danish Association of Engineers** 2022 – present
- CERN Alumni Network, alumni.cern** 2024 – present
- MCQST Alumni Network, mcqst.de** 2023 – present

SELECTED EXTRACURRICULAR ACTIVITIES

- Junior Researcher’s Project — Graphene Nanopore Water Filtration** April – October 2018
Collaboration with Prof. Peter Boggild, DTU — National semifinalist, Young Researchers (Unge Forskere)
Six-month independent research project on sustainable access to drinking water via graphene nanopore filtration; reached national semifinals
- Internship at the Niels Bohr Institute** 2015
University of Copenhagen
Week-long immersive introduction to quantum physics at the institute where Bohr and Einstein laid its foundations; formative experience sparking a lifelong passion for quantum physics
- Georg Mohr Mathematical Contest** 2016, 2017, 2018
Nordic Mathematical Contest for High School Students — 1st and 2nd rounds
Competed in the Nordic mathematics olympiad; advanced to the 2nd round with exposure to number theory
- MasterClass at Gefion Gymnasium** 2014 – 2016
Extracurricular science programme at high school level — selected among 10 students from primary school
- Academy for Talented Youth (Akademiet for Talentfulde Unge)** August 2016 – January 2019
Professional workshops and higher-education lectures; programming summer camp (self-built alarm clock)

CONTACT & ONLINE PRESENCE

- Email:** dbepi@dtu.dk **Address:** Copenhagen, Denmark
- Website:** mindfulphysicist.com **Instagram:** [@mindfulphysicist](https://www.instagram.com/mindfulphysicist) **LinkedIn:** [linkedin.com/in/dotpio](https://www.linkedin.com/in/dotpio)
- DTU Research:** orbit.dtu.dk/en/persons/dot-pio **Zenodo:** zenodo.org/records/18650303 **IDA Physics:** ida.dk