

PETER LODAHL 2020

Professor, Director

CV

Center for Hybrid Quantum Networks, Hy-Q
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Scientific expertise

- >>Quantum optics and quantum-information processing in solid-state systems
- >>Quantum technology
- >>Optics and photonics

Education

- >>PhD, University of Copenhagen, Denmark (2000)
- >>MSc, University of Aarhus, Denmark (1997)

Positions

- >>Director of Danish National Center of Excellence Hy-Q (2018-)
- >>Scientific Director for Center of Quantum Innovation (Qubiz) funded by Innovation Fund Denmark (2016-18)
- >>Full professor of physics (vocation) and leader of 'Quantum Photonics Group', Niels Bohr Institute, University of Copenhagen, Denmark (since 2011)
- >>Visiting professor, University of Queensland, Australia (10/2013-01/2014)
- >>Associate professor and leader of 'Quantum Photonics Group', DTU Photonics, Technical University of Denmark, Denmark (2005-2011)
- >>Postdoc, MESA⁺ Institute, University of Twente, The Netherlands (2002-2005)
- >>Postdoc, California Institute of Technology (Caltech), USA (2001-2002)

Awards

- >>EliteForsk Price (2016)
- >>ERC Advanced Grant (2015)
- >>ERC Consolidator Grant (2010)
- >>Young Researcher's Award by the Danish Research Council (2005)
- >>Attracted >200 MDKK from e.g. ERC, Danish Research Council, VILLUM Foundation, Innovation Fund DK, A.P.Møller Foundation, etc

Other professional activities

- >>Deputy Section leader of Quantum Optics, Niels Bohr Institute, University of Copenhagen
- >>Appointed member of the Royal Danish Academy of Sciences and Letters (2016-)
- >>Member of Editorial Board of journal Quantum Science and Technology (2016-)
- >>Organizer or co-organizer of >5 international conferences
- >>External examiner at >10 national and international PhD defences
- >>Member of steering committee for MSc-education in Physics at DTU (2005-2011)
- >>Member of review board of "Leibniz Institute Dresden", since 2014
- >>Reviewer for Nature, Science, Physical Review Letters, and many more
- >>Reviewer of FET projects, ERC Synergy Grants, and many more
- >>Supervisor of >25 MSc-students, 29 PhD-students, 29 postdocs (since 2005)

Publications summary

- >>**120** articles in peer-reviewed journals incl. **34** articles in Nature, Science, Nature Physics/Nanotechnology/Communications, Reviews of Modern Physics, and Physical Review Letters

>>Total number of citations: >**6500** (ISI Web of Science), >**10000** (Google Scholar). h-index: **37** (ISI) and **46** (Google Scholar).
>>**5** book chapters. **11** articles in popular journals. >**150** invited colloquia and conference talks including keynote and plenary talks. >**100** peer reviewed conference contributions.

Innovation

>>Holder of 7 patents within photonic quantum technology
>>Founder of quantum-technology start-up company Sparrow Quantum

Selected major grants

>>Grant holder of Novo Nordisk Foundation Challenge Center “Solid-state quantum simulators for bio-chemistry (Solid-Q)”, (8 M€ grant, 2021-).
>> Grant holder of DNRF Center of Excellence Hy-Q (8 M€ grant, 2018-).
>> Grant holder of Innovation Fund Denmark grant FIRE-Q (3.5 M€ grant, 2020-).
>> Grant holder of Danish Research Infrastructure Center QUANTECH (2.7 M€ grant, 2016).

Selected Invited Talks

- ***Towards the quantum internet: advances in photonic quantum hardware***, Quantum Hub Denmark symposium, Ministry of Foreign Affairs, Copenhagen, Denmark, Nov. 22, 2019
- ***Deterministic spin-photon interfaces***, International conference on Emerging Quantum Technologies, Hefei, China, Sept. 15-20, 2019.
- ***Quantum hardware for the quantum internet***, Technoport Conference on Deep Tech Innovations, Trondheim Norway, March 27, 2019.
- ***Quantum devices based on quantum dots in planar nanophotonic structures***, Keynote talk, META2018, June 24 – July 1st, 2018.
- ***Quantum-Information Processing with Single-Photon Emitters***, Plenary talk at Central European Workshop on Quantum Optics (CEWQO), Mallorca, May 21-25, 2018.
- ***Chiral Quantum Optics***, Tutorial talk at CLEO:2018, San Jose, California, May 14-18, 2018.
- ***Scaling-up single-photon quantum hardware towards quantum-information processing with a quantum advantage***, Q-FARM seminar, Stanford University (online seminar), Sep. 23rd, 2020.
- ***Quantum-information processing with deterministic photon-emitter interfaces***, Institute Colloquium at University of Innsbruck, Austria, Jan 7, 2020.
- ***Quantum-information processing with quantum dots***, HQOC/ITAMP Joint Quantum Science Colloquium at Harvard University, Nov. 28, 2018.