QSI Project 101072637

HORIZON-MSCA-2021-DN-01

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Quantum-Safe Internet (QSI)

Providing Share Online Resources

Deliverable D4.4

Deliverable:	D4.4
Deliverable Name:	Providing Share Online Resources (SOR).
Lead Beneficiary:	University of Amsterdam (UvA).
Work Package No:	WP4.
Link:	https://quantum-safeinternet.com
Due Date:	30/09/2024.
Topics:	Training topics:

1. Quantum Communications
2. Post-quantum cryptography
3. Quantum Computing
4. Quantum Information Theory

In this document, we detail the shared online resources (SOR) that have been facilitated to the Doctoral Candidates (DCs) within the QSI project. Some material has been prepared specifically by this project, while other material has been generated by other projects and/or scientific colleagues. SOR supplement the training activities provided to the DCs, who already participate in relevant seminar series and attend formal taught courses and schools organised by the beneficiaries and associated partners.

SOR provide a general common knowledge about all relevant disciplines for the project and create a common background among the DCs. The set of resources/courses suitable for each DC depends on their individual background and the particular subproject in which they are recruited.

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This compilation has been completed with the collaboration of all the partners who have been adding different works (files and videos) to the list below, and will be continuously updated.

The resources are organized by topic, being the main topics: Quantum Communications, Post-quantum cryptography, Quantum Computing and Quantum Information Theory.

Share Online Resources: FILES

Quantum Communication.

2023	Michal Hajdušek, Rodney Van Meter, "Quantum Communications": https://arxiv.org/abs/2311.02367
2020	Koji Azuma, Stefan Bäuml, Tim Coopmans, David Elkouss, Boxi L, "Tools for Quantum network design": https://arxiv.org/abs/2012.06764
2021	Christopher Portmann, Renato Renner, "Security in Quantum Cryptography": https://arxiv.org/abs/2102.00021

Post-Quantum Cryptography.

MISSING

Quantum Computing.

2007	David Mermin, "Quantum Computer Science": http://mermin.lassp.cornell.edu/qcomp/CS483.html
2021	John Preskill, "Quantum computing 40 years later": https://arxiv.org/abs/2106.10522
2019	Ronald de Wolf, "Quantum Computing": https://arxiv.org/abs/1907.09415

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Quantum Information Theory.

2009	Simon J. Devitt, Kae Nemoto, William J. Munro, "Quantum Error Correction for Beginners": https://arxiv.org/abs/0905.2794
2015	Renato Renner, "Quantum Information Theory – HS 2015": https://edu.itp.phys.ethz.ch/hs15/QIT/
1997-2022	Course Information for Physics: http://theory.caltech.edu/~preskill/ph229/
2021	Ryszard Horodecki, "Quantum Information": https://arxiv.org/abs/2103.07712
2015	Marco Tomamichel, "Quantum Information Processing with Finite Resources": https://arxiv.org/abs/1504.00233
2023	Christoph Dittel, "Quantum Information Theory": https://arxiv.org/abs/2311.12442
2020	Sumeet Khatri, Mark M. Wilde "Principles of Quantum Communication Theory: A Modern Approach.": https://arxiv.org/abs/2011.04672

Share Online Resources: VIDEOS

Quantum Communication.

QSI project: School on Quantum Cryptography (2024):
https://tv.uvigo.es/series/magic/qeko62b9uo00o0okkk4g88ckog8ogo4

QCALL project: School of Quantum Communications Networks (2019):
https://mediaspace.unipd.it/channel/channelid/103263131
The password to see the video is: SQCN2018Padova

QCALL project: Quantum Secure Communication School (2018):
https://tv.uvigo.es/series/magic/po0izldz1hwo40k8w0cs4gwso8wwc0c

Post-Quantum Cryptography.

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Summer School on Post-Quantum Cryptography (2017):

https://2017.pqcrypto.org/school/schedule.html

Quantum Computing.

MISSING

Quantum Information Theory.

Andreas Winter, Quantum Information:
https://www.youtube.com/@matsciencechannel/search?query=winter

Artur Ekert, Introduction to Quantum Information Science:
https://www.arturekert.org/iqis

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