OQS GROUP STUDY RESOURCE LIST:

BOOKS:

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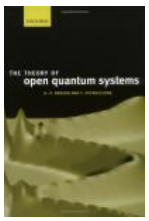
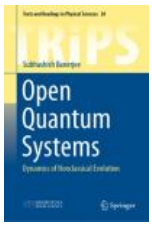
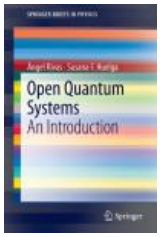
1. 

The theory of open quantum systems - Oxford University Press - Heinz-Peter Breuer, Francesco Petruccione.

Basics of OQS Theory

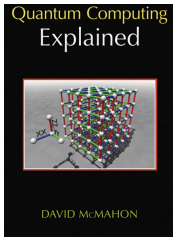
2. 

Open Quantum Systems: Dynamics of Nonclassical Evolution - Springer Singapore - Subhashish Banerjee.

3. 

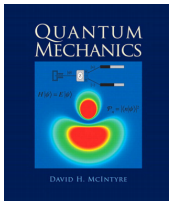
Open Quantum Systems: An Introduction - Springer - Verlag Berlin Heidelberg ´Angel Rivas, Susana F. Huelga (auth.)

Quantum Maps and Dynamics

4. 

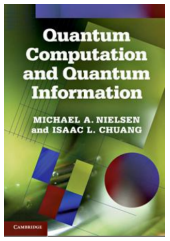
Quantum Computing Explained - D. McMahon.

Good for basics of Quantum Computation and Quantum Information Theory

5. 

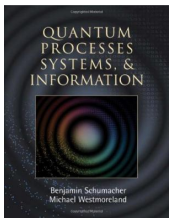
Quantum Mechanics : A Paradigms Approach - PEARSON - David H. McIntyre.

Good for the basics of QM. For newbies I recommend you also read Griffiths once you get to the integral formalism.

6. 

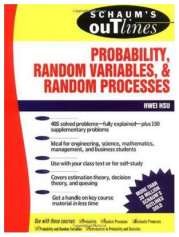
Quantum Computation and Quantum Information 10th Anniversary Edition, Nielson and Chuang

Known as the bible of QC and QI - Part III is what we are mainly concerned with.

7. 

Quantum Processes Systems, and Information Benjamin Schumacher, Michael Westmoreland

Useful exercises related to quantum information

8. 

Schaum's outline of theory and problems of probability, random variables, and random processes

Useful exercises related to probability

NOTES:

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1. Lecture Notes on the Theory of Open Quantum Systems - Daniel A. Lidar
2. Open Quantum Systems. An Introduction - Ángel Rivas, Susana F. Huelga
3. https://matteoacrossi.github.io/oqs-jupyterbook/introduction.html - GIT
4. A Short Course on Quantum Information - J´anos A. Bergou & Mark Hillery
5. Qutip - https://arxiv.org/pdf/1110.0573.pdf
6. Qiskit Textbook - https://qiskit.org/textbook/preface.html

VIDEOS:

1. A mini-school on OQS : Mini-School on Introduction to open quantum systems (Dr Pleasance)

2. Quantum Maps their trace preservation and complete positivity : Introduction to quantum CPTP maps and quantum (non) Markovianity- Gustavo Montes

3. OQS Dynamics - Paraty 2019 by Dr. Sabrina : Open Quantum System Dynamics - Sabrina Maniscalco - Paraty 2019

Research Papers and Scholarly Articles:

1. Dynamical and thermodynamical approaches to open quantum systems Vitalii Semin & Francesco Petruccione
2. Swapping of correlations via teleportation with decoherence J. Dajka and J. Łuczka
3. Local distinguishability of quantum states in bipartite systems
4. Distinguishability measures

Packages and Frameworks:

1. QISKIT
2. QuTip