

Devashish Tupkary

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(hyperlink to website)

PRINCIPAL RESEARCH INTERESTS

Quantum Information and Quantum Cryptography, Quantum Key Distribution, Open Quantum Systems

ACADEMIC BACKGROUND

Ph.D. Physics (Quantum Information) 2023-Present
[Institute for Quantum Computing, University of Waterloo](#)

M.Sc. Physics (Quantum Information) 2020-2022
[Institute for Quantum Computing, University of Waterloo](#)

- Thesis Title : [Improved Keyrates for Quantum Key Distribution from two-way Classical Communication](#)
- Relevant Coursework : Quantum Information Processing, Implementation of Quantum Information Processing, Theory of Quantum Information, Applied Quantum Cryptography. CGPA: 96.25/100.

B.Sc. (Research) Physics 2016-2020
[Indian Institute of Science](#)

- Graduate First Class with Distinction.
- Relevant Coursework : Quantum Mechanics 1, Quantum Mechanics 2, Quantum Computation, Quantum Measurements and Control, Quantum Information Theory, Information Theory, Theoretical Foundations of Cryptography. CGPA: 9.2/10, Physics GPA: 9.5/10.

PUBLICATIONS, PRESENTA- TIONS, PREPRINTS

Publications

- *Fundamental Limitations in Lindblad Descriptions of systems weakly coupled to baths.* Devashish Tupkary, Archak Purkayastha, Abhishek Dhar, Manas Kulkarni. [Phys. Rev. A 105, 032208](#)

Posters

- *Constraints on Correlations in the Triangle-network:* [Senior Undergraduate Research Conference](#) Azim Premji University, Bangalore, 6th-7th Dec 2019 2020.
- *Improved Keyrates for Quantum Key Distribution from two-way classical communication.* Devashish Tupkary, Norbert Lütkenhaus. [QCrypt 2022](#).

Presentations

- *Towards a device-independent witness to tri-partite quantum resources :* [Quantum Frontiers and Fundamentals](#), Raman Research Institute, Bangalore, 13th-18th January 2020.

SCHOLARSHIPS AND AWARDS

- [Long Term Visiting Student Program, International Centre for Theoretical Studies - Tata Institute of Fundamental Research](#) - Among a dozen students selected for a year-long funded research project. 2019
- [Madhava Mathematical Competition](#). *Rank 6* - A nationwide mathematics competition for undergraduate students. Attended the Madhava Mathematics Competition camp at the Indian Statistical Institute, Bangalore. 2017
- [Vijyoshi Science Camp](#) - Attended the Vijyoshi Science Camp held for KVPY Fellows in the year 2015 and 2016.
- [Kishore Vaigyanik Protsahan Yojana \(KVPY-SA Fellowship\)](#). *Rank 39* - Includes stipend and contingency grant. 2016-Present
- [National Bal Shree Honour for Creative Scientific Innovation](#) - One of the three highest national honours for children by the Government of India.
- [IIT-JEE \(Advanced\)](#) *Rank 312* - A nationwide entrance exam for college admissions to the IITs, written by millions of candidates. 2016
- [Indian National Math Olympiad](#) - *Ranked below 70 nationally* 2016
- [Qualified INPhO](#) - Ranked in the top 35 of Indian National Physics Olympiad. Attended the International Physics Olympiad Orientation and Selection camp at Homi Bhabha Centre for Science Education, Mumbai. May 2016.
- [National Talent Search Examination](#) - Among 1000 students awarded the NTSE Scholarship nationally in each year. 2012-2016

TECHNICAL SKILLS

Languages : C, Python (Numpy, Cython, Qutip, Tensorflow, Keras), MATLAB (CVX, QETLAB), Bash, Mathematica.

POSITIONS OF RESPONSIBILITY

- Co-Organized the QKD Security Proof Workshop at IQC Waterloo. 2022
- Co-Convener of the Music Club, IISc, and Rhythmica IISc. 2018-19
- Keyboard instructor under the Rhythmica Outreach program. June 2018- Dec 2018