



TO MAGNIFICO RETTORE OF UNIVERSITA' DEGLI STUDI DI MILANO

ID CODE _6565__

I the undersigned asks to participate in the public selection, for qualifications and examinations, for the awarding of a type B fellowship at **Dipartimento di _____ Fisica_____**

Scientist- in - charge: _____**Prof. Paris Matteo**_____

CURRICULUM VITAE

PERSONAL INFORMATION

Surname	Jayakody
Name	Jayakody Arachchige Don Mahesh Niranjana

PRESENT OCCUPATION

Appointment	Structure
PhD candidate (Thesis submitted)	

EDUCATION AND TRAINING

Degree	Course of studies	University	Year of achievement of the degree
PhD	Quantum Information	Bar-Ilan University	Thesis submitted
MPhil	Quantum Physics	University of Colombo	2019
MSc	Nuclear Science	University of Colombo	2018
BSc	Physics	University of Colombo	2014
Diploma	Quantum Programming	QWorld	2020
Certificate	Quantum Computing	QWorld and University of Latvia	2022

REGISTRATION IN PROFESSIONAL ASSOCIATIONS

Date of registration	Association	City
18-January-2022	Israel Physical Society (Member from Jan-2022 to Jan-2024)	Tel Aviv, Isreal

FOREIGN LANGUAGES

Languages	Level of knowledge
Sinhalese	Native
English	Fluent



AWARDS, ACKNOWLEDGEMENTS, SCHOLARSHIPS

Year	Description of award
2019-2023	President's scholarships for outstanding doctoral students, Bar Ilan University, Israel (Full financial support for the completion of Ph.D. program)
2022-2023	Institute for Nanotechnology & Advanced Materials (BINA) scholarships for outstanding graduate students, Bar Ilan University, Israel
2019-2020	Institute for Nanotechnology & Advanced Materials (BINA) scholarships for outstanding graduate students, Bar Ilan University, Israel
2016-2019	Merit-based assistantship at National Institute of Fundamental Studies, Sri Lanka

TRAINING OR RESEARCH ACTIVITY

<p>PhD research activity: The main goal of the PhD research work was to manipulate the dynamics and geometry of Quantum walks with the aim of achieving favorable results in relation to quantum information processing and simulation, even under the influence of noise and decoherence. Analytical and computational techniques were employed to conduct the research.</p> <p>MPhil research activity: The main goal of the MPhil research work was to investigate the classical and quantum interactions that would result in the collapse of the wave function. The framework of Quantum walks was used as a testing platform to examine how classical and quantum interactions can yield corresponding classical statistical properties for a given quantum system. Analytical and computational techniques were employed to conduct the research.</p>
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PROJECT ACTIVITY

Year	Project
2021-2022	Research supervisor for the undergraduate research project <i>Title: Realization of Quantum Walks in Quantum Computers</i>
2022-2023	Research supervisor for the undergraduate research project <i>Title: Quantum Computation of Bargmann Invariants</i>

PATENTS

Patent: None

CONGRESSES AND SEMINARS

Date	Title	Place
20-31 July, 2020	Qiskit Global Summer School, organized by IBM Quantum and Qiskit team	Online
26 July- 8 August, 2021	Quantum Summer School organized by QWorld team	Online
4-10 February, 2023	The international conference on Quantum Information Processing	Ghent University, Belgium
17-19 May, 2017	International conference on computational Modelling and Simulation	University of Colombo, Sri Lanka



PUBLICATIONS

Books
None

Articles
Jayakody, M. N., & Nanayakkara, A. (2019). Full state revivals in higher dimensional quantum walks. <i>Phys. Scr.</i> 94 045101
Jayakody, M.N., Nanayakkara, A. & Cohen, E. (2021). Analysis of Decoherence in Linear and Cyclic Quantum Walks. <i>Optics</i> , 2(4), pp.236-250.
Jayakody, M.N., Paiva, I.L., Nanayakkara, A. & Cohen, E. (2022). Induced on-demand revival in coined quantum walks on infinite d-dimensional lattices. <i>Phys. Rev. A</i> 105, 032413
Jayakody, M. N., Meena, C., & Pradhan, P. (2023). Revisiting one-dimensional discrete-time quantum walks with general coin. <i>Physics Open</i> , 17, 100189
Jayakody, M.N. and Cohen, E. (2023). Closed-form expressions for the probability distribution of quantum walk on a line. <i>Eur. Phys. J. D</i> 77, 193
Jayakody, M. N., Priodyuti Pradhan, Dana Ben Porath, and E. Cohen. (2023) Discrete-time Quantum Walk on Multilayer Networks. <i>Entropy</i> . 2023; 25(12):1610.
Idan, Y., & Jayakody, M.N. (2023). Variational Quantum Algorithm based circuit that implements the Toffoli Gate with multiple inputs. arXiv:2305.18750

Congress proceedings
Impact of Decoherence on Quantum Random Walks, International conference on computation modeling and simulations, University of Colombo, Colombo, Sri Lanka, 2017
Cyclic quantum walks: photonic realization and decoherence analysis, International conference on Advanced Optical Techniques for Quantum Information, Sensing, and Metrology, San Francisco, California, United States, 2020

OTHER INFORMATION

Programming Languages: C, Python Specialized software: Mathematica, MATLAB Quantum simulation: Qiskit, Cirq, PennyLane

Declarations given in the present curriculum must be considered released according to art. 46 and 47 of DPR n. 445/2000.

The present curriculum does not contain confidential and legal information according to art. 4, paragraph 1, points d) and e) of D.Lgs. 30.06.2003 n. 196.

Please note that CV WILL BE PUBLISHED on the University website and It is recommended that personal and sensitive data should not be included. This template is realized to satisfy the need of publication without personal and sensitive data.

Please DO NOT SIGN this form.

Place and date: __Negombo, Sri Lanka____, __10-April-2024____