

# Unathi Koketso Skosana

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## EDUCATION

2022 – present	PhD Quantum computing, Stellenbosch University (SU)
2020 – 2022	MSc Quantum computing ( <i>cum laude</i> ) [ <a href="#">read here</a> ], Stellenbosch University (SU)
2019 – 2020	Hons Theoretical Physics ( <i>cum laude</i> ), Stellenbosch University (SU)
2016 – 2018	Bsc Theoretical Physics ( <i>cum laude</i> ), Stellenbosch University (SU)

## WORK EXPERIENCE

2022 – present	Research intern, IBM Research Africa
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## GRANTS AND RECOGNITION

2020 – 2021	Undergraduate (department of physics) top achievers, Stellenbosch University (SU)
2020 – 2022	Masters Research Grant, Council of Scientific and Industrial Research (CSIR)
2017 – 2019	Undergraduate/Honours Programme, Square Kilometer Array (SKA)
2016 – 2017	Merit Award Bursary, Stellenbosch University (SU)

## PAPERS

2021	Unathi Skosana and Mark Tame “Demonstration of Shor’s factoring algorithm for $N = 21$ on IBM quantum processors”. In: <i>Sci Rep</i> (Aug 2021). DOI: <a href="https://doi.org/10.1038/s41598-021-95973-w">10.1038/10.1038/s41598-021-95973-w</a> . arXiv: <a href="https://arxiv.org/abs/2013.13855">2013.13855</a> [quant-ph]
2021	Unathi Skosana and Mark Tame “On the advantages of relative Toffoli gates”. In: <i>Corrigenda to The Proceedings of SAIP2021, the 65th Annual Conference of the South African Institute of Physics</i> (Apr 2022). pp. 14 – 21. ISBN: 978-0-620-97693-0. Online: <a href="http://events.saip.org.za">http://events.saip.org.za</a>

## **PUBLIC SPEAKING**

- 2022 “Introduction to Quantum Computing Workshop” South African Institute of Industrial Engineers (SAIIE). 05 October
- 2022 “Introduction to Quantum Computing” South African Institute Electrical Engineers (SAIEE). 30 August
- 2021 “On the advantages of relative phase Toffolis” South African Institute of Physics (SAIP) [[view here](#)]. 28 July
- 2019 “Modeling of Measurement-based Quantum Computing on IBM Q Experience Devices” Quantum Africa V conference / WitsQ Summer School [[view here](#)]. 5 Sept/10 Dec

## **SELECTED PROJECTS**

- 2021 – 2022 Server/client code for controlling hyperentangled photonic light source [[found here](#)]

## **SERVICE**

- 2018 – 2021 Teaching assistant for undergraduate physics 114/144 at Stellenbosch University

## **MISCELLANEOUS**

- 2022 [Qiskit Advocate](#), Qiskit
- 2022 [IBM Certified Associate Developer](#), Quantum Computation using Qiskit v0.2X
- 2022 [IBM Quantum Spring Challenge 2022](#), Qiskit
- 2022 [Qiskit Advocate Mentorship Program Fall 2022](#), Qiskit
- 2020 [Qiskit Global Summer School 2020](#), Qiskit