

### Research Interests

Computational Condensed Matter Physics: I explore unique quantum properties in topological materials, focusing on new quantum phases and fundamental insights.

Quantum Simulation: I am interested in utilizing quantum computers to model and investigate complex quantum phenomena, surpassing classical computational limits.

Quantum Machine Learning: I am interested in developing advanced models to enhance the understanding and design of quantum materials for key applications such as energy storage and electronics.

### Academic History

- 06/2018 - 09/2024** PhD candidate in Computational Condensed Matter and Materials Physics at the University of Cape Town (UCT), Cape Town, South Africa.
- 09/2015** Research Master Degree in Condensed Matter Physics, Department of Physics, University of Dschang, Cameroon.
- 06/2015** Structured Master Degree in Mathematical Sciences, African Institute for Mathematical Sciences, AIMS-Cameroon.
- 09/2013** Master I in Condensed Matter Physics, Department of Physics, University of Dschang, Cameroon.
- 09/2012** Bachelor Degree in Condensed Matter Physics, Department of Physics, University of Dschang, Cameroon.

### List of Publications

- [2] A.J. Fotue, M.F.C. Fobasso, S.C. Kenfack, M. Tiotsop, J.-R.D. Djomou, C. M. Ekosso, G.-P. Nguimeya, J.E. Danga, R.M. Keumo Tsiaze, L.C. Fai. Tunable potentials and decoherence effect on polaron in nanostructures. *Eur. Phys. J. Plus* (2016) 131: 205. DOI [10.1140/epjp/i2016-16205-5](https://doi.org/10.1140/epjp/i2016-16205-5).
- [1] Kenfack SC, Nguimeya G.-P, Talla PK, Fotue AJ et al. (2016) Decoherence of Driven Coupled Harmonic Oscillator. *J Nanosci Curr Res* 1: 104. doi:[10.4172/JNCR.1000104](https://doi.org/10.4172/JNCR.1000104).

### Teaching

- 09/2022 - 10/2023** Teaching assistant:  
Head Tutor at the African Institute for Mathematical Sciences (AIMS), South Africa.
- 02/2022 - 06/2022** Teaching assistant:  
Tutor at the African Institute for Mathematical Sciences (AIMS), South Africa.
- 02/2019 - 11/2019** Teaching assistant:  
Physics Tutor at the University of Cape Town (UCT), South Africa.
- 02/2017 - 03/2017** Teaching assistant:  
Physics Tutor at the Higher Teacher Training College (HTTC) Bambili, Cameroon.
- Quantum Mechanics (Undergraduate course)
  - Advanced Quantum Mechanics (Graduate course)
- 09/2016 - 06/2017** High School Teacher:

Part-time Physics Teacher at Government Bilingual High School Mbouda, Cameroon.

- 05/2016 - 06/2016** Teaching assistant:  
Physics Tutor at the University of Dschang, Cameroon.  
◦ Quantum mechanics (Graduate course).
- 02/2016 - 03/2016** Teaching assistant:  
Physics Tutor at the Higher Teacher Training College (HTTC) Bambili, Cameroon.  
◦ Quantum mechanics (Graduate course).
- 11/2015 - 01/2016** Teaching assistant:  
Physics Tutor at the University of Dschang, Cameroon.  
◦ Electromagnetism (Undergraduate course)  
◦ Electrostatics (Undergraduate course)  
◦ General Physics (Undergraduate course)
- 05/2014 - 07/2014** Teaching assistant:  
Physics Tutor at the University of Dschang, Cameroon.  
◦ Introduction to Quantum Physics (Undergraduate course)

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## Additional Training

- 06 - 07, 2024** QML Challenge in PennyLane | PennyLane Quantum Machine Learning Challenge in the [Womanium Global Quantum + AI Program](#).
- 06/2024** QHack 2023 Flashback Event | Quantum Challenge by [PennyLane](#).
- 06/2024** Introduction to PennyLane Certificate | Quantum Challenge by [PennyLane](#).
- 06/2024** IBM Quantum Challenge 2024 | Quantum Challenge by IBM Quantum, a division of IBM dedicated to advancing quantum computing technology.
- 02 - 06, 2024** QCourse504-1 | Elementary Quantum Algorithms. Spring semester of the [QClass23/24](#) program by [QWorld](#) and the University of Latvia.
- 05 - 06, 2024** QTitanium | Topological Quantum Computing. Self-study module in the [QClass23/24](#) program by [QWorld](#).
- 05 - 06, 2024** QCobalt | Quantum Annealing. Self-study module in the [QClass23/24](#) program by [QWorld](#).
- 05 - 06, 2024** QZinc | Quantum Error Correction. Self-study module in the [QClass23/24](#) program by [QWorld](#).
- 04/2024** QML Challenge in PennyLane | Quantum Machine Learning Challenge in the [QClass23/24](#) program by [QWorld](#).
- 01 - 02, 2024** CHPC - NITheCS Coding Summer School by the Centre for High Performance Computing ([CHPC](#)), South Africa. More details on the [CSS4 webpage](#).
- 09/2023 - 01/2024** QCourse551-1 | “Quantum Software Development with Classiq” by [QWorld](#) and [Classiq](#). I was part of Project 32: Smart Post-Processing for Algorithms with Quantum Phase Estimation, in which I worked on the quantum phase estimation of the ground state energy of a particle in a double-well potential. More details on the [QCourse551-1 webpage](#).
- 09/2023 - 01/2024** QCourse501-1 | Elements of Quantum Computing and Programming. Autumn semester of the [QClass23/24](#) program by [QWorld](#) and the University of Latvia. More details on the [QClass23/24 webpage](#).

**10/2023** QNickel6 | Quantum Computing and Programming by [QPoland](#). More details on the [QNickel6 webpage](#).

**09/2023** QBronze115 | Quantum Computing and Programming by [QNepal](#). More details on the [QBronze115 webpage](#).

**09/2023** Quantum Computing for Natural Sciences (with IBM Quantum) by [openHPI](#) and IBM Quantum.

**08 - 09, 2022** Practical HPC | [2022 Winter School Online Course](#) by the Centre for High Performance Computing ([CHPC](#)), South Africa.

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## Leadership Roles

**10/2013 - 09/2015** Class Representative:  
Class representative for the MSc in Condensed Matter Physics at the University of Dschang, Cameroon.

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## Softwares & Programming

**DFT & TB model** Quantum Espresso, Wannier90, WannierTools, Quantum Lattice.

**Crystallography** Xcrysden, FermiSurfer, Vesta, Avogadro.

**Q. Computing** Qiskit, PennyLane, Classiq.

**Programming** Git, GitHub, Bash Script, Python, Google Apps Script, LaTeX (including Beamer).

**Operating System** Linux, Windows.

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## Languages

**French** Mother tongue

**English** Fluent

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## References

**Contacts** Contact details available upon request