



Theodore
GOUMAI
VEDEKOI

Student at the University
of Yaounde 1



05 January 2002



Melen-Yaoundé



+237 655941689



<https://github.com/theodore7fredy>



theodore.goumai@facsciences-uy1.cm

About me

I am a PhD candidate passionate about exploring how quantum physics can inspire greener materials and sustainable technologies. My work connects non-Markovian quantum dynamics, materials science, and responsible artificial intelligence to better understand how coherence and energy flow in complex quantum systems. By developing hybrid simulation frameworks (such as Process Tensor-HOPS and MesoHOPS) and integrating them with eco-design principles, I aim to create photonic materials for truly symbiotic agrivoltaic systems — pushing photovoltaic conversion efficiency beyond ($PCE > 20\%$) while maintaining relative crop photosynthetic performance ($ETR_{rel} > 90\%$).

Skills

Python, Matlab, Julia, C++, Latex

MesoHops, Qutip, HierarchicalEOM.jl

Orca, Lammmps, Xtb, GROMACS

scikit-Learn, Keras, PINNS, CNN

Interests

Hierarchy of Pure-State Simulations (Hops, AdHops, DadHops)
Molecular modeling and ab-initio molecular dynamic simulations
Quantum Computing and quantum technologies
Hartree fock, post Hartree fock, DFT and TD-DFT calculations
Machine Learning and Deep learning for scientific discovery

Education

2022-2024	M.Sc. Atomic, molecular, and biophysical physics <i>Specializing in quantum computing</i>	University of Yaoundé 1
2019-2022	B.Sc. Fundamental physics Advanced study in quantum physics	University of Yaoundé 1
2011-2019	BAC. Life, Earth and Mathematical Sciences	Bilingual High School of Etoug-Ebe

Certifications

2023	WOMANIUM QUANTUM 2023 : GLOBAL QUANTUM PROGRAM COMPUTING, SENSING, COMMUNICATION
2023	DIPLOMA QBRONZE USING QISKIT QWORLD QUANTUM COMPUTING AND PROGRAMMING
2023	BIOPHYSICS IN AFRICA CONFERENCE African light Source and African Physical Society
2024	Tutorial Certificate activities for the teaching unit "Introduction to Quantum Mechanics"
2025	Tutor Certificate Activities for the teaching unit "Introduction to Quantum Chemistry and the VQE Method"

Languages

French	Advance level
English	intermediate level
German	Beginner level

Experiences

2023-2025	Teaching-assistant at the University of Yaoundé 1 Teaching unit of Introduction to Quantum mechanics
2021-2025	Tutor Tutor in physics for B.Sc and M.Sc students

Other Informations

I am adaptable, growth-oriented, and teamwork-driven. I am an active member of the "NEO-QUANTICIENS" research team at the *University of Yaoundé 1* (see my github repositories), and of the (*Cameroon Physical Society*, CPS), affiliated with the (*American Physical Society*, APS), reflecting my commitment to both local and international scientific communities..

References

Serge Guy NANA ENGO
Professor at the University of Yaoundé 1
serge.nana-engo@facsciences-uy1.cm

Jean Pierre TCHAPET NJAFA
Lecturer at the University of Yaoundé 1
jean-pierre.tchapet@facsciences-uy1.cm