

Espoir Murhula

PhD Student, Queen's University

My background spans the entire value chain of the minerals industry: exploration, mining, mineral processing, metallurgy, and environmental aspects. My current research focuses on the flotation and surface chemistry of Li-bearing minerals, as part of my PhD project.



✉ espoir.murhula@queensu.ca

☎ +1 343-580-7007

📍 Kingston, Canada

EDUCATION

PhD Student, Mining Engineering Queen's University, Canada

01/2022 - Present

Topic

- Spodumene and Amblygonite Flotation form a Complex Pegmatite from Northern Canada

Advisor: Charlotte Gibson (charlotte.gibson@queensu.ca)

MSc Georesources Engineering Université de Lorraine, France

09/2020 - 09/2021

Thesis

- Characterization and Beneficiation of Pegmatites from Finland

Advisor: Lev Filippov (lev.filippov@univ-lorraine.fr)

MS Exploration & Modeling of Deposits Mines ParisTech, France

09/2019 - 09/2020

Thesis

- Geophysical Modeling of Cu and Pb-Zn mineralization in Wollaston, Canada

BSc (Hons) Exploration & Mining Geology Université Officielle de Bukavu, DR Congo

10/2011 - 07/2016

Thesis

- Chemical Weathering of Basic Rocks from Bukavu (DR Congo): Hydrogeochemistry, Geochemistry and Petrography

Advisor: Batumike Mwandulo (jacques.batumike@mq.edu.au)

WORK EXPERIENCE

Teaching Assistant Queen's University, Canada

09/2022 - Present

Courses

- Applied Chemistry for Mining (MINE 267), Methods of Mineral Separation (MINE 331), Mineral Processing Op. Un. (MNTC 306)

Teaching and Research Assistant Université Officielle de Bukavu, DR Congo

03/2017 - 09/2019

Courses

- Mineralogy, Crystallography, and Thermodynamics Applied to Petrology

Internship GeoRessources Laboratory, France

03/2021 - 09/2021

Description

- Li, Nb, and Ta recovery from LCT pegmatites

SKILLS AND INTERESTS

Froth Flotation

Spodumene, Lithium

Mineral Processing

Mineral Exploration

Mineral-Water Interface

Computational Material Science

Quantum Espresso, LAMMPS

Gaussian, Python, JMP

Mineral Characterization

Surface Chemistry

HONORS AND AWARDS

The Modular Mining Graduate Award (02/2023 - Present)

French Government Scholarship (2019 - 2020)

BEBUC Scholarship, German-Congolese NGO (2014 - 2018)

CIFOR grant, Center for International Forestry Research (2016)

Congolese Government Scholarship, best student (2012)

PUBLICATIONS

Murhula, E.M.; Arellano A.; Cook B.; Gibson C. (2023). Effect of (de)Protonation on the UV Spectra of Sodium Oleate: Experimental and TD-DFT study (Ready for ACS Langmuir)

Murhula, E.; Hashan, M.; Otsuki, A. (2023). Effect of Solid Concentration and Particle Size on the Flotation Kinetics and Entrainment of Quartz and Hematite. Metals 2023, 13, 53.

Murhula E. et al. (2022). 3D geophysical-geological Modeling of the Needle Falls Shear Zone (Canada): Structural Controls on Base Metal Mineralization. 16th Biennial Meeting, SGA 2022.

Murhula E.M. et al. (2019). Hydrogeochemistry and Susceptibility to Groundwater Contamination in Panzi-Bukavu (DR Congo). Geo-Eco-Trop 43(1):197-209.

CERTIFICATES

Data Mining in Geosciences (06/2019 - 06/2019)
Université de Rouen Normandie (France)

Python programming (11/2018 - 01/2019)
NIIT Accra (Accra, Ghana)

LANGUAGES

French ● ● ● ● ●

Swahili ● ● ● ● ●

English ● ● ● ○ ○