Bernard Asare Owusu

Geophysics PhD Student

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Website
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Research Interests

Joint geophysical-petrological modeling, Surface wave tomography, Geothermal energy exploration

Current Position

PhD Student, Geophysics - Dublin Institute for Advanced Studies, Ireland

Past Positions

Research Assistant, Kwame Nkrumah University of Science and Technology	2023-2024
Graduate Research Assistant, Kwame Nkrumah University of Science and Technology	2023
Research Assistant, Ghana Atomic Energy Commission, Ghana	2020-2021

Education

Ph.D. in Geophysics, University College Dublin — Expected 2028

Thesis: Temperature determination beneath volcanoes using geophysical-petrological modeling. [A]
Supervisors: Dr. Emma Chambers and Dr. Aline Melo

M.Phil. in Geophysics, Kwame Nkrumah University of Science and Technology — 2023

Dissertation: Seismic facies analysis with machine learning for reservoir characterization.
Supervisor: Dr. Cyril Boateng

B.Sc. in Physics, Kwame Nkrumah University of Science and Technology — 2020

Publications

Peer-Reviewed Journals

1. **Owusu, B.A.,** Boateng, C.D., Asare, V.-D., Danuor, S.K., Adenutsi, C.D., Quaye, J.A. (2024). Seismic facies analysis using machine learning techniques: a review and case study. *Earth Sci Inform*. 17, 3899–3924. https://doi.org/10.1007/s12145-024-01395-3

Conference Contributions

Talks

1. Chambers E. L., Fullea J., **Owusu B. A.**, Kiyan D., Bean C. (2025). Subsurface temperature models of Ireland - from joint geophysical-petrological-lithological inversion. *Irish Geological Research Meeting*, Trinity College Dublin, Ireland.

Posters

1. **Owusu B. A.**, Chambers E. L., Bean C. J. (2025). Determining the subsurface temperature at Krafla, Northern Iceland through joint inversion of seismic, elevation, heat flow, and thermal data. *Irish Geological Research Meeting*, Trinity College Dublin, Ireland.
2. Chambers, E. L., Fullea, J., Kiyan, D., **Owusu, B. A.**, Grannel, J., Smith, P., Craig, D., Molhoff, M., Raine, R., Blake, S., Bean, C. J. (2024). MOD3LTHERM – MODelling the 3D thermal and Lithospheric Structure of geothermal regions. *GSI National Geothermal Summit*, Dublin Castle, Ireland.

Awards and Funding

SFI-IRC Pathway Programme PhD Scholarship 09.2024

Summer Internship

Geophysics Intern, Ghana National Petroleum Corporation, Ghana

Service

Member, EGU Early Career Seismology Team 2024 – Present

Skills

Languages

- Akan: Native
- English: Excellent

Technical

- *Programming*: Python, MATLAB, Fortran, Shell Scripting
- Seismic Processing and analysis
- *Seismic Interpretation*: Petrel, OpendTect, IHS Kingdom Suite
- *Computing*: Linux environments

Memberships

2025-Present	Member - Next Gen Geo, Geothermal Rising
2024-Present	Student Member, Society of Exploration Geophysicists (SEG)