Name: Prof. Abdul-Wadood Moomen

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Contact Information

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Research Profile

Research Areas: Sustainable Mining, Earth Resources Engineering, Sustainable Resource Consumption & Production, Mining Technologies, Mineral Exploration, Mine Development & Information Management, Resource Estimation, Impact Assessment, Remote Sensing, GIS.

Fields of Application: Mineral Resource Governance and Production, Raw Materials Supply Chains, Contract Negotiation, Mine Management, Mineral Security, Environmental

Education

1. ACADEMIC DEGREES AND INSTITUTIONS ATTENDED

1a. Academic degrees / certificates earned with dates

Table 1: degrees / certificates

Degree / Certificate	Area of Study	Institution Attended	Dates
Doctor of Philosophy	Mineral Resource Development	Western Australian School of Mines (WASM), Faculty of Science & Engineering, Curtin University	2012 – 2016
CAROLINE International Postdoctoral Fellowship	Global Resources Information Databases,	School of Computer Science, University College Dublin (UCD), Ireland	2018 - 2021
EIT-RawMatCop Cadetship	Raw Materials Exploration, Production & Mining Technology	Faculty of Engineering University of Bologna, Italy	2019
*QQI Level 6 Certificate	Professional Project Management	DCM - Ireland	2021
Certificate of Advance Studies	Geomatics for Sustainable Environment	EnviroSPACE Engineering –University of Geneva	2019
Bachelor's (Honours)	Geography & Resource Development	University of Ghana	2007 - 2011

*QQI stands for Quality and Qualifications Ireland

1b. Institutions attended with dates

2012 – 2016 Curtin University – Perth, Western Australia

2020 – 2021 University College Dublin (UCD) – Republic of Ireland
2019 – 2020 University of Geneva (UNiGE) – Switzerland
2019 European Institute of Technology – Raw Materials Copernicus Academy – University of Bologna (UNiBo) – Italy
2007 – 2011 University of Ghana

Other Training Certificates

Mining Project Appraisal and Contract Negotiation (2023): *Mining Project Development and Capacity Building for Critical Minerals*. Deloitte, USA Department of State Energy and Mineral Governance Programme (EMGP).

Geoscience and Data Management (2023): *Harnessing Critical Minerals to Accelerate Economic Growth | Materials.* Deloitte, USA Department of State EMGP.

Land Degradation Neutrality (LDN) and the LDN Toolbox (2023): Group on Earth Observations – Land Degradation Neutrality (GEO-LDN) flagship, Regional Centre for Mapping Resources for Development (RCMRD), Conservation International, WOCAT.

Artisanal and Small-Scale Mining (2022): Pan-African Support to Geological Sciences (PanAfGEO) and Technology Africa-EU Partnership, Geological Survey of Denmark (GEUS).

Perspectives on LDN – monitoring and beyond (2022): Group on Earth Observations Land Degradation Neutrality (GEO-LDN), Bonn, Germany; UNCCD, GEO Secretariat.

Ecosystem Services: a Methods for Sustainable Development (2021): University of Geneva, Switzerland

Gender and Mining Governance (2020): Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF); United Nations Development Programme (UNDP), International Institute for Sustainable Development, Swedish Environmental Protection Agency.

Environmental Security and Sustaining Peace (2019): SDG Academy; Environmental Law Institute, Nicholas School of the Environment – Duke University, University of California – Irvine, UN Environment Programme (UNEP), The Earth Institute – Columbia University.

Formal Academic Employment History

Table 3: University Employment History

Date	Position / Rank	Institution
2025 - Date	Associate Professor	University of Energy & Natural Resources (UENR)
2020 - Date	Senior Lecturer	UENR
2018 - 2020	Lecturer	UENR
2018 - 2018	Lecturer	KNUST, Kumasi
2013 - 2017	Sessional Academic	WASM – Faculty of Science & Engineering, Curtin University
2014 - 2017	Exams Supervisor	Faculty of Science & Engineering, Curtin University

SERVICE

Table 5: Selected Service to the university community, national and international community

S/No.	*Portfolio*	Date
1	**Dean** – School of Mines	2026 - Present
4	**Head**, Department of Sustainable Mineral Resource Development	2021 – 2025
5	**Member,** School Board	2021 - Present
6	**Member,** Academic Board	2020 - Present
7	**Member,** Departmental Board	2018 - Present
8	**Member,** School Appointments and Promotions sub-Committee	2021 - Present
9	**Chairman**, Annual Transformational Dialogue on Small-Scale Mining in Ghana, UENR	2022 - Present
11	**Chairman,** Technical Committee for E-Waste Conference, UENR	2023-2024
12	**Facilitator,** Enhancing Skills in Grant Proposal Writing, *Centre for Professional Development, workshop on Grant Writing for Early Career Researcher (ECR).* University of Nottingham, UK.	2023
18	**UENR Representative,** The Ghana Chamber of Mines Council	2023 - Present
19	**UENR Representative,** Ghana National Plastics Action Partnership (NPAP) Taskforce. *Ministry of Environment, Science, Technology (MEST). Accra*	2022 – Present
20	**UENR Representative,** Advancing Formalization and Mercury-free Gold in Ghana. PlanetGOLD Project Inception Group. *Environmental Protection Agency (EPA), UNDP, UN Industrial Development Organization (UNIDO)*	2023 - Present
21	**Member,** Earth Observations for Managing Mineral and Non-Renewable Energy Resources. GEO MiDO + EO4MIN Initiative.	2023 – Present
22	**Reviewer,** Research Grant Proposal. *Exposum Institute, University of Montpellier, France.*	2023
23	**Facilitator:** Partnership Engagements with the Colorado School of Mines, Golden, USA.	November 2022
24	**Facilitator,** *Applications of Remote Sensing in Small-scale Mining Management & Mineral Exploration*. Regional Workshop on ASM for the Southern Africa Region, Mozambique. Maputo.	September 2022

International Affiliations

08/2025 to Present: Member; National Scientific Advisory Board, WASCAL – CEMiF Programme – University Gamal Abdel Nasser of Conakry (UGANC), Republic of Guinea

06/2021 to Present: Member**;** Scientific Advisory Board, the Minamata Secretariat, United Nations Environment Programme (UNEP), Europe Regional Office, Geneva, Switzerland

06/2018 to 2021: Guest Researcher: Global Resources Information Division (GRID), UNEP, Geneva, Switzerland

06/2018 to 2022: Invited Scientist: Institute of Environmental Sciences, EnviroSPACE, University of Geneva

06/2018 to 05/2021: International Fellow; European Union's Horizon 2020 Programme, under the Marie Skłodowska-Curie Actions (MSCA); University College Dublin (UCD), Ireland

Selected Resource Mobilisation / Projects Funding History

O8/2024 to 07/2026
Coordinator: GEO-LDN Scholarship Awards Agreement – Total Grant (€170,000.00)

O4/2023 to 08/2024
Coordinator: GEO-LDN Scholarship Awards Agreement – Total Grant (€70,000.00)

O4/2023 to 12/2023
Principal Investigator: International Institute of Tropical Agriculture (IITA) – Land Use and Land Cover Mapping of Cereal Root Mixed Farming Systems in the Northern Savannah Regions of Ghana. Total Grant ($14,945.00)

01/2022 to present:
Chairman and Organizer; Annual Transformational Dialogue on Small-Scale Mining, SMBE, UENR – Total Mobilizations as of 2025 (GHC1,250,000.00)

11/2022 to 12/2022
Lead: Newmont Ghana Corp Bursaries and sponsorship for SMBE Academic Programmes. Total estimates ($20,000.00)

06/2018 to 05/2021:
Awardee: European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 713279: Total Grant (€254,256.60)

11/2013 – 5/2016
Awardee: The Crawford Fund of Australia; Research Funding (AUD12,000.00)

Consultancy Services

02/2024 to 2025
Harnessing Earth Observation for Environmental Due Diligence: OECD Fora on Responsible Mineral Supply Chains. Sectoral Program on Raw Materials and Development of the Federal Institute for Geosciences and Natural Resources (BGR), Germany.

06/2023 to 2025: *Skills Gap Analysis and Audit in Twelve Economic Sectors in Ghana.* Mining Sector Expert. Baobab company limited for Commission for Technical and Vocational Education and Training (CTVET), Ghana. Ministry of Education.

10/2020 to 2023: *The benefits and challenges of the use of remote sensing technologies to support artisanal and small-scale gold mining (ASGM) policy development, implementation, and evaluation*. Global Resources Information Division (UNEP/GRID-Geneva) – Minamata Convention on Mercury, Minamata Secretariat, UNEP, and University of Geneva, Switzerland.

03/2021 to 11/2022: *Training the geoscientific cadres of the Geological Surveys of Africa through the development of an innovative program*. The Pan-African Support to the EuroGeoSurveys – Organisation of Geological Surveys of Africa Partnership (PanAfGEO).

Selected Publications

Refereed Journal Articles

1. Boamah, E. O., Yevugah, L. L., Kabo-Bah, A. T., Moomen, A. W., & Wellington, M. (2026). Digital earth Africa fractional cover products for monitoring land productivity trajectory. *African Research Reports*, *2*(2), 193-203. https://doi.org/10.65221/0091
2. Peprah, M. S., Moomen, A. W., & Sey, J. M. (2026). Leveraging Digital Earth (DE) for sustainable development in Africa: a systematic review and meta-analysis. *Arabian Journal of Geosciences*, *19*(5), 99. https://doi.org/10.1007/s12517-026-12502-7
3. Tetteh, A. T., Moomen, A. W., Yevugah, L. L., & Dodoo, P. (2026). Assessing Land Degradation Susceptibility in a Mining Landscape of Ghana Using Geospatial Techniques and Soil Organic Carbon. *Global and Earth Surface Processes Change*, 100013. https://doi.org/10.1016/j.gespch.2026.100013
4. Tetteh, A. T., Yevugah, L. L., & Moomen, A. W. (2026). Stakeholders' Perceptions of Land Degradation and Rehabilitation Efforts in Mining Communities: A Case Study of the Birim North Mining District, Ghana. *Nature-Based Solutions*, 100320. https://doi.org/10.1016/j.nbsj.2026.100320
5. Jiru, T. L., Moomen, A. W., Domfeh, M. K., & Appiah, O. (2026). Spatial prediction of soil organic carbon stocks using regression kriging to support land degradation neutrality (SDG 15.3. 1) in Negele Arsi District, Ethiopia. *Sustainable Futures*, *11*, 101796. https://doi.org/10.1016/j.sftr.2026.101796
6. Derzu, A., Akudugu, J. A., Moomen, A. W., Yevugah, L. L., & Boakye, L. (2026). Spatial modelling of land degradation and restoration dynamics in mining-affected landscapes in Ghana. *Land Use Policy*, *166*, 108029. https://doi.org/10.1016/j.landusepol.2026.108029
7. Mohammad, R., Appiah, E. S., Abekah, O. B., Moomen, A. W., Ayamba, O., Akinwamide, S. O., ... & Gupta, R. K. (2026). Advances in Rare Earth Mineral Extraction from Waste for Energy Storage Applications: A Comprehensive Review. *Process Safety and Environmental Protection*, 108501. 10.1016/j.psep.2026.108501
8. Peprah, M. S., Moomen, A. W., & Sey, J. M. (2026). Meta-analysis of land use/land cover change scenarios in Ghana using machine learning and cellular automata models. *International Journal of Environmental Science and Technology*, *23*(5), 346. https://doi.org/10.1007/s13762-026-07142-z
9. Tetteh, A. T., Kahuri, S., Yevugah, L. L., Moomen, A. W., Kwakwa, P. A., & Yakubu, I. (2026). A multi-criteria approach to fluvial flood vulnerability assessment: A case study of lower Manya Krobo municipality. *Water Cycle*, *7*, 68-82. https://doi.org/10.1016/j.watcyc.2025.06.001
10. Wireko-Gyebi, R. S., Braimah, I., Anaafo, D., Moomen, A. W., & Lykke, A. M. (2025). Challenges associated with formalising artisanal small-scale mining in Ghana. *Sage Open*, *15*(2), 21582440251341054. https://doi.org/10.1177/2158244025134105.
11. Moomen, A. W., Bertolotto, M., & Lacroix, P. (2025). Balancing Mineral Resource Development and Food Security in Northwest Ghana. *Int J Agric Sc Food Technol*, *11*(1), 010-025.

Refereed Published Scientific/Technical Reports

1. Moomen, W.A., Yevugah, L.L., Boakye, L. and Osei, D.J. 2023. Resilient Agri-Food Systems: Sustainable Intensification of Mixed Farming Systems ─ Quarterly Progress Report. Review of Land Use, Land Cover, and Land Degradation Mapping for Resilience and Sustainable Land Management in the Cereal Root – Mixed Farming System areas. Ibadan, Nigeria: IITA. https://hdl.handle.net/10568/134547
2. Planque, M., Benvenuti1, A., Piller, T., Moomen, A.-W., Lacroix, P., Giuliani, G. (2022). Remote Sensing in support of ASGM policy development, evaluation and implementation - *Technical Guidance Document.* Global Mercury Partnership. UNEP, GRID-Geneva, Switzerland. https://minamataconvention.org/en/monitoring-mercury-and-around-sites-artisanal-and-small-scale-gold-mining-asgm.

Refereed Unpublished Scientific/Technical Reports

1. (2024). Future *Skills Requirement in the various Sectors Report. Mining Sector Report*. Skills Gap Analysis and Audit in Twelve Economic Sectors in Ghana. Commission for Technical and Vocational Education and Training (C-TVET).
2. (2024). Report on the Skills Gap Analysis of the Industries in the Twelve Sectors. Mining Sector Report. Skills Gap Analysis and Audit in Twelve Economic Sectors in Ghana. Commission for Technical and Vocational Education and Training (C-TVET).
3. (2023). *Profiles of Occupations in the Twelve Economic Sectors of Ghana*. *Mining Sector Overview*. Commission for Technical and Vocational Education and Training (CTVET). Ministry of Education, Ghana. Submitted to Baobab Company Group.

Refereed Book Publications

1. Planque, M., Benvenuti, A., Moomen, A.-W., Lacroix, P. (2022). How can remote sensing support artisanal and small-scale gold mining policy development, implementation and evaluation? *A practitioner's guide.* Global Mercury Partnership. UNEP, GRID-Geneva, Switzerland. https://minamataconvention.org/en/monitoring-mercury-and-around-sites-artisanal-and-small-scale-gold-mining-asgm. https://earthobservations.org/organization/work-programme/earth-observations-for-multi-scale-monitoring-of-mining-impacts.

Refereed Book Chapter Publications

1. Moomen. A.-W. (2022). *Remote Sensing in the Small-Scale Mining Sub-Sector Development in Southern Africa* in Tychsen, J., Batista, M.J., Carvalho, J. (2022), "Artisanal and Small-Scale Mining Handbook for Southern Africa Region", Geological Survey of Denmark and Greenland, Copenhagen, Denmark and Geological Survey of Portugal, Lisbon, Portugal, 262 pp.

https://panafgeo.eurogeosurveys.org/media/publications/.

Selected Presentations

1. (2024). Harnessing Earth Observation for Due Diligence. OECD Forum on Responsible Mineral Supply Chains. OECD Headquarters, Paris, France. 20-24th May.
2. (2024). Plenary Session on Land Degradation Neutrality for a sustainable future: GEO-LDN Help Desk. Post Graduate Program GEOLDN. 8th AfriGEO Symposium. Nairobi, Kenya. 12th to 15th August 2024.

3. (2024). Plenary Session on EO for Agriculture and Food Security. Remote Sensing for Sustainable Agriculture in the Northern Savannah Regions of Ghana. 8th AfriGEO Symposium. RCMRD, Nairobi, Kenya. 12th to 15th August 2024.
4. (2024). Leveraging *Opportunities of Academic Institutions for E-Waste Management in Ghana*. Session Moderator. Africa Environmental Health and Pollution Management Program (AEHPMP) – Regional Conference on Mercury and E-Waste Pollution Management. Accra, Ghana. 7th to 11th May 2024.
5. (2023). Remote Sensing for Monitoring and Managing Illegal Mining: Case studies in D.R. Congo and Columbia. 2nd Annual Transformational Dialogue on Small-Scale Mining. University of Energy and Natural Resources, Sunyani. 17th to 18th May 2023.
6. (2022). Remote Sensing for Mineral Exploration. PanAfGEO II Workshop on training of Geological Survey Authorities for ASM monitoring and management in Southern Africa. Maputo, Mozambique. 27th – 30th September 2022. Guest Lecture.

Other Memberships

2014 - Present: Australian Mining and Exploration Council (AMEC)

2017- Present: Accra Mining Network (AMN)

2019 – Present: Member, ASM Geospatial Discussion Group (UNEP)

2023 – Present: Ghana Geospatial Society

2020 – Present: AfriGEOSS (Africa Group on Earth Observation and Satellite Systems)

Alumnus - European Union (EU) Horizon 2020 (H2020) MSCA Fellowship

Alumnus - The Irish Research Council (IRC), CAROLINE International Fellowship

Alumnus - EIT RawMatCop Academy

Alumnus - Western Australian School of Mines (WASM)

Professional Scientific web addresses

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