March 2024 African Minerals and Geosciences Centre | +255 22 2650347



AMGC Director General's Message





On afternoon of Friday 8th March 2024, AMGC held the ceremony of handling out certificates for two trainees from the Centre and four trainees from the Geological Survey of Tanzania (GST), and Mining Commission on the TESCAN TIMA Training course in the Analytical

Fingerprinting Laboratory (AFP). AMGC on 18th March 2024 received four professionals of chemical analysts for a 5-days capacity building training on Basics of X-Ray Fluorescence (XRF) and Atomic Absorption Spectrometer (AAS) from the Burundian Office of Mines and Quarries (OBM), Republic of Burundi. Their certificates handling ceremony was done on 22nd March 2024. The Director General of AMGC paid a courtesy visit to Ambassador Hon. Col. (RTD) Fred Mwesigve, at the Uganda High Commissioner to Tanzania on 18th March 2024. A courtesy visit was also Sandro H.E. paid de Oliveira. to Ambassador of Angola in Dar es Salaam, Tanzania on 26th March 2024. On March 27th 2024. The African Minerals and Geosciences Centre received 32 students from the **Vocational Training Centre (VETA).**

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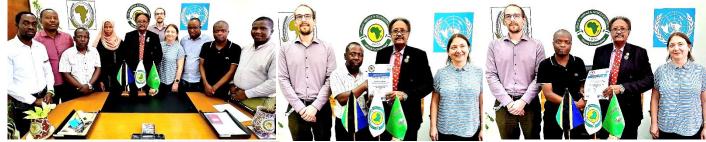
















Certificate hand out ceremony for two trainees from the African Minerals and Geosciences Centre (AMGC) and four trainees from the Government of the United Republic of Tanzania Geological Survey of Tanzania (GST), and Mining Commission on the TESCAN TIMA Training course in the Analytical Fingerprinting Laboratory (AFP).

The list of trainees is as follows;

- 1- Mr. Charles Buteta, AMGC
- 2- Mr. Hassani Z. Makonde, AMGC
- 3- Ms Zaituni H. Issere, GST
- 4- Mr. Kamana Camilius, GST
- 5- Mr. David P. Lyndale, Mining Commission
- 6- Mr. Hasani Kodema Mussa, Mining Commission

The training was facilitated by the Federal Institute for Geosciences and Natural Resources (Bundesanstalt für Geowissenschaften und Rohstoffe (BGR) project and conducted by Dr. Mariia Lukashova, TESCAN Application Specialist from Dortmund, Germany. The training was conducted for 5 days from 04th to 08th March 2024. The conduction of this training complements the strategic technical measures for sustainability of the AFP Laboratory, which is owned by the International Conference for Great Lakes Region (ICGLR).



The African Minerals and Geosciences Centre on 18th March 2024 received four professional chemical analysts from the Burundian Office of Mines and Quarries (OBM), Republic of Burundi. The professionals were attended a 5-days capacity building training on Basics of X-Ray Fluorescence (XRF) and Atomic Absorption Spectrometer (AAS). The list of professionals included;

- 1. Ms. Philomene NDAYISENGA
- 2. Mr. Jean Marie BIZIMANA
- 3. Mr. Celestine NDAYIKUNDA
- 4. Mr. Desire NDINZEYOSE

This training was hosted and facilitated by Chemical and Environmental Department of AMGC from 18th to 22nd March 2024.



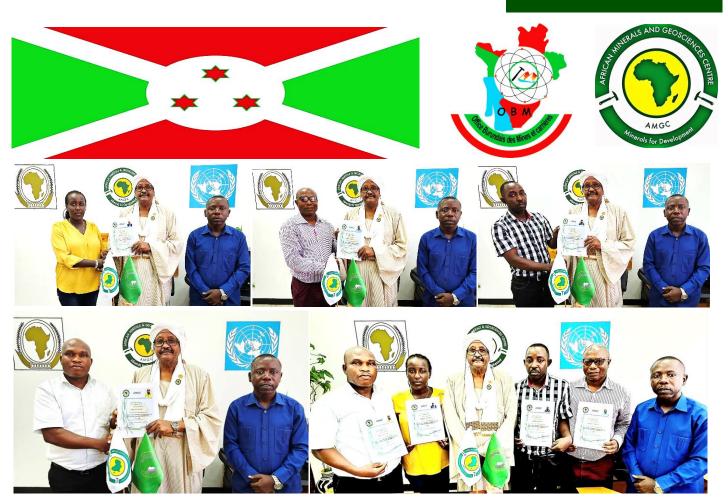




The Director General of the AMGC on 18th March 2024 paid a courtesy visit to H.E. AMB. HON COL (RTD) Fred Mwesigye, at the Uganda High Commissioner to Tanzania to express AMGC gratitude to the much appreciated support of the Government of Uganda through its esteemed Ministry of Energy, Oil and Minerals Development, which enables the Centre to implement its activities to its highest peak. The Director General of AMGC updated H.E. the Uganda High Commissioner among other issues, the challenges facing the Centre as well as brought to his kind attention the intension to visit Kampala soon to discuss challenges and developments at the Centre with the Principal



Secretary of the esteemed Ministry of Energy, Oil and Minerals Development of Uganda. The Director General of AMGC intends also to meet the Ag. Director for the Directorate of the Geological Survey and Mines of Uganda and the Desk and Liaison Officer as well as Ugandan Representative on the Board of Director of AMGC. The intended meeting will discuss among other issues performance of the Centre and Uganda maximization its benefits from the spectrum of mineral services provided by the Centre. It is worth mentioning that Uganda has joined the Centre since January 1980, chaired and hosted the AMGC 25th Governing Council on 26th May 2005 in Kampala, Uganda. The Minister for Energy and Minerals Development by then was Hon. Syda N.M. Bbumba. Out of the six Directors General for the Centre, the late Mr. James Kagule-Magambo was the 2nd Director General from 1986-1994.



Certificate handing ceremony at the African Minerals and Geosciences Centre (AMGC) to four professional chemical analysts from the Burundian Office of Mines and Quarries (OBM), Republic of Burundi. The professionals were attending a 5-days capacity building training on Basics of X-Ray Fluorescence (XRF) and Atomic Absorption Spectrometer (AAS). The list of professionals included;

- 1. Ms. Philomene NDAYISENGA
- 2. Mr. Jean Marie BIZIMANA
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- 4. Mr. Desire NDINZEYOSE

This training was hosted and facilitated by Chemical and Environmental Department of AMGC from 18^{th} to 22^{nd} March 2024.









On 26th March 2024, a courtesy visit paid to the esteemed Embassy of Angola in Dar es Salaam, Tanzania. The Director General of the African Minerals and Geosciences Centre, met H.E. Ambassador Sandro de Oliveira briefed him among other issues regarding challenges facing the Centre. The Director General expressed appreciation and gratitude to the Government of Angola for the tremendous efforts made to the sustainable support of Angola to the Centre. AMGC is concerned about Angola's maximization of its participation in the Centre's activities, including benefits of analytical services and on-job-training in geo-information, gemology, mineral processing, industrial minerals and pottery/ceramic technology. It is worth mentioning that Angola, one of the founding member states of AMGC, has been unreservedly supporting the Centre since joining the Centre on 23th May 1985. Angola shouldered more than once (in 2001 and 2009) hosting the Policy Organ Meetings of the Centre as well as chairing the Governing Council of the Centre. Out of the six Directors General managing the Centre since 1977, Angola was elected to manage the Centre from 2002 to 2006 by H.E. Dr. Diamantino Pedro Azevedo, the current Minister for Mineral Resources, Oil and Gas in Angola. H.E. Dr. Diamantino is the current vice chairman of the AMGC Governing Council. Angola was elected Chair of the Board of Directors (BOD) of AMGC from 2006 to 2014 by Dr. Luis Antonio, then advisor of the Minister of Geology and Mines of Angola and now Director of Exchange Office at the Ministry of Mineral Resources, Oil and Gas of Angola. Currently, Dr. Luis is the representative of Angola in AMGC Standing Committee of Officials. Mr. Canga Xiaquivuila, the Director General of the Geological Institute of Angola, is the representative of Angola in AMGC **Board of Directors.**











On March 27th 2024, the African Minerals and Geosciences Centre received 32 students from the Vocational Training Centre (VETA). On behalf of the AMGC, the Industrial Minerals Application Department received those students with the aim of understanding in more detail how industrial minerals are widely used and also how they can help the community commercially and economically. In addition to the visit in the Industrial Minerals department, the students had the opportunity to visit other departments such as Mineral Processing and Small-Scale Mining and Chemical and Environmental Department, which is one of the ways to better understand the services provided by the AMGC. It is worth mentioning that the vocational education and training authority is a government institution that mandated the role of providing, promoting, and facilitating financial support for providing of vocational education and training system.

EVENTS



The African Minerals and Geosciences Centre AMGC through the Director General received an invitation to speak and participate at the 10th Mozambique Mining, and Energy conference and exhibition (MMEC) 2024, from 2nd to 3rd May 2024 Maputo, Mozambique.



08th MINEXPO KENYA 2024 - International Trade Exhibition on Mining & Machinery, will be held on 05th to 07th June 2024, Kenvatta International Convention Centre. Nairobi



08th MINEXPO TANZANIA 2024 - International Trade Exhibition on Mining & Machinery, Dar es Salaam from 25th to 27th September 2024

New Courses



The Mineralogy, Petrology and Gemology

Department is happy to announce the following

new training courses

- Gemstone/Mineral Estimation and Valuation
- 2 Jewelry Design
- Gemstone Exploration & Gem Safari's

More Info matokeo@seamic.org





NEW Training Courses

African Minerals and Geosciences Centre (AMGC) is pleased to announce the introduction of four new courses Geostatistics, Petroleum Sciences and Resource Estimation in collaboration with Khartoum based Consulting firm called **Knowledge and Training Centre (KTC).** The course shall be facilitated by the Director of KTC, Dr. M. Zayed Awad, an eminent specialist in the areas of Geostatistics, resource evaluation, stratigraphy, reporting, training and mentoring, risk and decision analysis, petroleum economics, project management. The training course will be organized in Dar es Salaam at the AMGC training facilities. The following training courses are going to be offered through this collaboration.

1. Fundamental of Petroleum Economics

Duration: One Week **Course fee:** US\$ 1,200

This course introduces the participants to requirements for conducting petroleum economics; different stages of the petroleum industry life cycle involving upstream, mid-stream and downstream sectors will be explained. Participants will learn how to construct a Cash Flow Model for oil and gas investment decision. They will also learn how to deal with the different financial components of petroleum cost, and classification of costs into OPEX and CAPEX. Net Cash Flow Stream analysis and computation of economic indicators (Yardsticks) such as NPV, IRR, PBP, MCE and DPI, and their interpretations are essential for petroleum investment decision-making. Cash Flow Adjustment using discount rates is also considered. Types of fiscal regimes will be explained, participant will also learn how to incorporate the fiscal parameters into a cash flow stream.

2. Geostatistical Mineral Resource Estimation

Duration: One Week **Course fee:** US\$ 1,700

The course will focus on the fundamentals of Geostatistical application in mining that are required for domain specification that are required for mineral resource estimation and will include hands-on training with Geostatistical software. Geostatistical conditional Simulations may be used to assess the uncertainty associated with the Reserves Evaluation at exploration, feasibility, and production stages. The simulations provide a range of potential reserves for the ore body's Tonnage, Metal Quantity and Recovered Grade.





3. Introduction to Oil and Gas Industry

DURATION: One Week Course fee: US\$ 1,200

This course is designed for a wide-ranging of petroleum industry personnel. It is designed to provide green-hands technical, and non-technical personnel with practical petroleum industry life cycle. The course covers the key phases of the exploration, development and production industry as well as transportation and refining of crudes oils.

4. Geostatistics for Mining - foundation Course

Duration: Two Weeks **Course fee:** US\$ 2,000

Geostatistics, in combination with other statistical methods, offers a wide range of mathematical tools that can be used to analyze, model, provide estimates and assess uncertainties, for different types of spatial phenomena, for example, grades or geological features. The course will focus on the fundamentals of Geostatistics and statistics and will include hands-on training with Geostatistical software.

THE INSTRUCTOR



Dr. M. Zayed Awad, the former Sudanese Minister for Oil and Gas (September 2014-May 2017) BSc (Hons) from University of Khartoum, Sudan, MSc (Geol) from Technical University of Berlin (TU), PhD (Stratigraphy) from Technical University of Berlin (TU). Dr. Zayed is a university instructor with postgraduate qualifications in petroleum geology, stratigraphy, economic geology, Geostatistics, and relevant application soft wares. He has more than 35 years' experience in university teaching and more than 25 years worldwide experience in

the petroleum industry and training. He has supervised many MSc and PhD research students and reviewed several reports and research papers. He is the founder of Knowledge & Training Center (KTC) in Sudan, and he is active as a trainer since 2003. He worked on many projects and given training courses to hundreds of attendees on many aspects of geology. Dr. Zayed's skills are in Geostatistics, resource evaluation, stratigraphy, reporting, training and mentoring, risk and decision analysis, petroleum economics, project management. Dr. Zayed was the initiator and editor-in-Chief of the book titled "Petroleum Geology and Resources of the Sudan" published by Geozone (Berlin) in 2015.



LIST OF TRAINING COURSES

Training Topics	Duration	Fee	
Finance and Administration Department (FAD)			
Leadership and Management Skills	2 Weeks	\$1,500	
Financial Management Skills	2 Weeks	\$1,500	
Executive Secretarial Skills	2 Weeks	\$1,500	
Chemical and Environmental Department (CED)			
Spectrometric Methods of Analysis.	2 Weeks	\$800	
Analysis of Gold and Other Base Metals	2 Weeks	\$800	
Modern Laboratory Management Method	2 Weeks	\$1,500	
Quality Management Section (QM)			
Laboratory Certification and Accreditation	2 Weeks	\$1,500	
Modern Laboratory Management Methods	2 Weeks	\$1,500	
Quality Control and Quality Assurance in Laboratories	2 Weeks	\$1,500	
Laboratory Safety and Security	2 Weeks	\$1,500	
Mineralogy, Petrology and Gemology Department (MPGD)			
Mineralogical and Petrological Sample Preparation and	2 Weeks	\$800	
Analytical Techniques			
Gemstone Identification Techniques	1 Week	\$400	
Gemstone Value Addition Techniques	2 Weeks	\$800	
Usage of Benchtop X-ray Diffraction (XRD)	2 Weeks	\$800	
Gemstone formation, mode of occurrences and mining	2 Weeks	\$800	
methods			
Industrial Minerals Application Department (IMAD)			
Pottery for Beginners	2 Weeks	\$800	
Mould Making	2 Weeks	\$800	
Forming Techniques	2 Weeks	\$800	
Decorations in Pottery and Ceramics	2 Weeks	\$800	
Bricks & Tiles Manufacturing [Clays]	2 Weeks	\$800	
Glaze Formulation	2 Weeks	\$800	
Body Composition Formulation	2 Weeks	\$800	



Mineral Processing and Small-scale Mining Department (MPSSMD)			
Practical Mineral Processing and The Basic Mineral	2 Weeks	\$800	
Processing Flowsheet			
Sampling and Sample Preparation for Laboratory Testing	2 Weeks	\$800	
Artisanal and Small-Scale Mining Activities	2 Weeks	\$800	
Techniques of Gold Cyanidation	1 Week	\$800	
Mineral Economics	2 Weeks	\$800	
Metallurgical Balance and Process Evaluation	2 Weeks	\$800	
Extractive Metallurgy – Metallic Ore Deposits, Metal	2 Weeks	\$800	
Extraction and Purification Processes			
Environmental Management in Mining	1 Week	\$400	
Geo-information Department (GID)			
GIS and Remote Sensing for Mineral Exploration and	2 weeks	\$800	
Geological Mapping			
Best Practices in Mineral Resource Estimation	1 week	\$400	
Geodatabase Development for Web mapping	2 weeks	\$800	
GIS and Remote Sensing Application for Geohazards	1 week	\$400	
Integrated Mineral Exploration Techniques	2 weeks	\$800	
GIS and Remote Sensing for Hydrological Applications	1 week	\$400	
Open-Source GIS	2 weeks	\$800	
Geochemical Exploration and Mapping	2 weeks	\$1,200	
Structural Geology and Geotectonics in Mineral	2 weeks	\$1,200	
Exploration			
Fundamental of Petroleum Economics	1 week	\$1,200	
Geostatistical Mineral Resource Estimation	1 week	\$1,700	
Introduction to Oil and Gas Industry	1 week	\$1,200	
Geostatistics for Mining - foundation Course	2 weeks	\$2,000	
Prospect Evaluation: Volumetric and Risk Analysis	2 weeks	\$2,000	



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Minerals for Development

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MINERALOGY, PETROLOGY AND GEMMOLOGY SERVICES

The Mineralogy, Petrology and Gemmology Department utilizes the skills of its staff to address crucial issues in the mineral sector such as lack of technical knowledge on mineral testing and identification, evaluation, grading and value addition techniques.

EXPERTISE

- Mineralogical and petrological sample preparation and analysis

- Specialized training in Gemmology, Gemstone Cutting and Polishing and Mineralogical and Petrological Sample preparation and Analytical Techniques.



Petrography and Gemmological Microscopes

ANALYTICAL SERVICES

- ✓ Preparation of standard thin sections and polished sections
- Rock slabbing and polishing
- Rock core splitting

- Consultation and Expert opinion

TRAINING SERVICES

- Mineralogical and petrological sample preparation and analytical techniques

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