



AMGC Director General's Message



The Director General of the African Minerals & Geosciences Centre (AMGC) sent congratulatory cards celebrating AMGC 46th Anniversary to all dignitaries and officials of member states. He paid a familiarization visits to the Dar es Salaam International Trade Fair

(DITF) on 7th July 2023, the Saba Saba Day. He participated in the “Africa Gem, Jewellery Exhibition and Conference (AGJEC)”, which organized by the Interim Secretariat of the African Minerals Development Centre (AMDC) domiciled at the African Union Commission (AUC) Department of Economic Development, Trade, Tourism, Industry, and Minerals (ETTIM) from 10th to 14th July 2023, in Ndola, Zambia. On July 20, 2023 AMGC was honored by a familiarization visit from His Excellency the Principal Secretary of the Ministry of Mining, Blue Economy and Maritime Affairs (MIBEMA) of Kenya, accompanied by the Ministry's leaders. The Centre has received 5 undergraduate students taking Bachelor of Science in Environmental Laboratory Science and Technology (BSc. ELST) from Ardhi University (ARU) in Tanzania.

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The African Minerals & Geosciences Centre (AMGC) celebrated its 46th Anniversary on July 2023. The Centre was established in 1977 in Dodoma, Tanzania as one of the sub-regional centers for the development of the mineral sector, principally to carry out regional geological surveying and to provide minerals exploration and advisory services for programs of the founding member states, Ethiopia, Tanzania, Mozambique, Uganda, Angola, Comoros, Kenya and Sudan. , the ministerial meeting in Maputo decided that membership is open to all African states. To reflect this expansion of the scope, the name of the Centre was changed to AMGC starting from July 2015. In 1991 AMGC moved its operations from Dodoma to an extensive new site in Dar es Salaam with a mission to “Promote socio-economic and



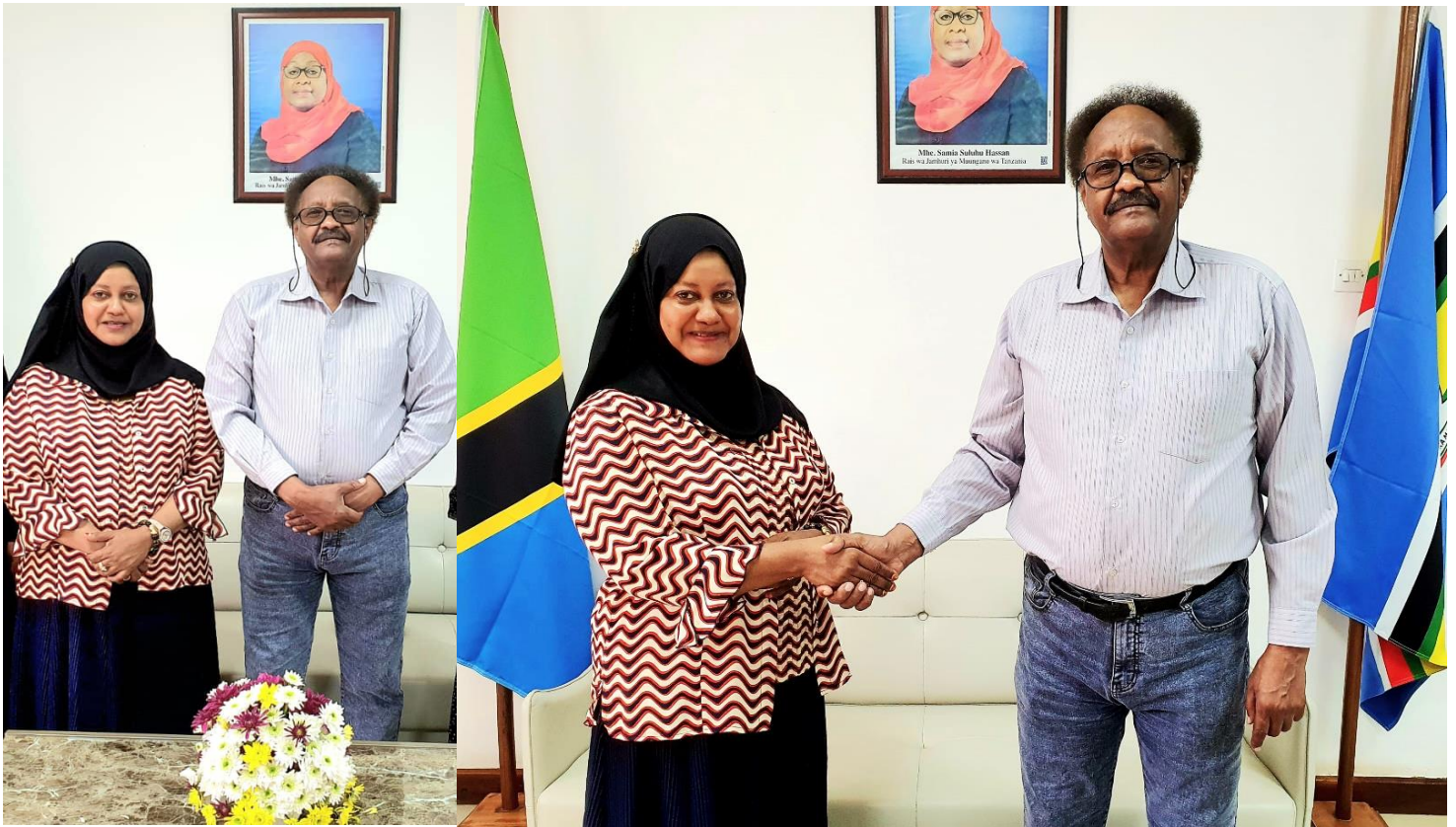
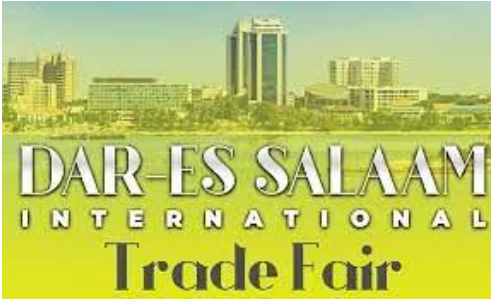
environmentally responsible mineral sector development in Africa”.

To meet the new demands of the mineral sector stakeholders the Centre diversified its services to provide a high-tech, state-of-the-art minerals analytical laboratory services and geo-information data processing activities, complimented with the provision of short-term specialized training courses. The training courses are provided under the regular scheduled training programs, special request training courses and through donor funded programs. Capacity building activities through Donor funded projects carried out by the Centre include GEODESA, GIS Africa, AEGOS, PanAfGeo, ACP-EU Development Minerals programme and other smaller projects with funding from the EU, UNDP, UNIDO, UNESCO as well as the governments of Japan, India, Belgium and France.

The Centre is ISO 9000:2015 certified for its analytical and data processing services and is in the process of establishing the ISO 17025 Accreditation for its analytical laboratories. As part of its Pan-African dimension the Centre actively participates in regional and continental initiatives including the development and implementation of the African Mining Vision of the African Union. AMGC has partnered with the ACP-EU Development Minerals Programme, implemented by UNDP, and carried out the capacity building program with 235 professionals and operators of the Development Minerals trained on Geodata management in the first phase. In the second phase AMGC provided capacity building service for one of the focus country project activities in online platform.

AMGC is a member of advisory board involved in PanAfGeo and AfricaMaVal Projects of the European/African Geological Survey Organizations partnership are another continental initiatives supported by EU and AU aimed at forging partnership between African and European Geological Survey Organizations for knowledge sharing and to boost investments.

The Analytical Finger Printing (AFP) Laboratory for col tan mineral certification, initiated by the International Conference for the Great Lakes Region (ICGLR) head of states and governments, was established in the premises of the AMGC. The objective of the AFP laboratory is to analyze minerals and characterize ore concentrates and use the data for fingerprinting coltan, tin and tungsten to help conclusively define the specific origin of the mineral ore bodies with the view to stop illegal mineral trade in the Great Lakes Region and abate minerals conflict. Agreement was signed between ICGLR and AMGC to commercialize the services of the laboratory in order to insure sustainability of the facilities after the current support ends.

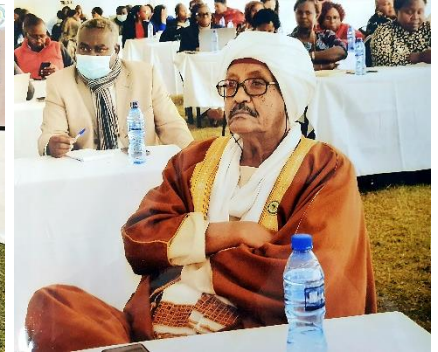


On 7th July 2023, the Saba Saba Day, the Director General of the African Minerals & Geosciences Centre (AMGC) paid a familiarization visit to the Dar es Salaam International Trade Fair (DITF). He was received by Ms Latifa M. Khamis, the Director General of Tanzania Trade Development Authority. Among international and Tanzanian business pavilions in the DITF visited by the Director General of AMGC is the pavilion of the Ministry of Minerals (Wizara ya Madini) of Tanzania that is responsible for facilitating the development of the mining sector.

The Director General of the African Minerals & Geosciences Centre (AMGC) participated in the “Africa Gem, Jewellery Exhibition and Conference (AGJEC)”, which organized by the Interim Secretariat of the African Minerals Development Centre (AMDC) domiciled at the African Union Commission (AUC) Department of Economic Development, Trade, Tourism, Industry, and Minerals (ETTIM) from 10th to 14th July 2023, in Ndola, Zambia. He delivered a presentation entitled: Gem & Jewelry Building Capacity and Processing Centres of Excellence Centre. A familiarization visit was paid to Grizzly Mine Site which a large scale emerald mining and Lufwanyama Emerald mine site, a small scale on the Copperbelt Province, Zambia. A visit is also paid to the Gemstone Processing & Lapidary Training Centre (GPLTC) in Ndola, Zambia.



**Inaugural Africa
gemstones
conference, exhibition
billed for July 10–14 in
Ndola, Zambia**

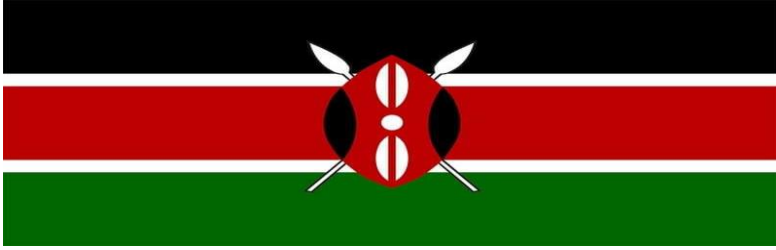




ASSOCIATION
OF WOMEN IN
MINING OF
AFRICA

AWIMA
ASSOCIATION OF WOMEN IN MINING IN AFRICA





On Thursday 20th July 2023, the African Minerals and Geosciences Centre (AMGC) was honored to receive and welcome a high delegation from Kenya led by Mr. Alijah Mwangi, the Principal Secretary (PS) for the Ministry of Mining, Blue Economy and Maritime Affairs (MIBEMA), State Department for Mining of Kenya. Mr. Alijah Mwangi, is a distinguished member of the Standing Committee of Officials of AMGC and he paid a familiarization visit to the Centre representing the Hon. Cabinet Secretary (CS) of MIBEMA, who is currently the Chairman of the Governing Council of AMGC.

The members of the delegation who accompanied the Principal Secretary were:-

1. Mr. Joe Ager, Board Chairmaon, National Mining Corporation (NMC)
2. Mr Thomas Mutwiwa, CEO of NMC
3. Mr. Peter Wachira, Board Member of NMC
4. Mr. Enoch Kipseba, Acting Director of the Geological Surveys and representative of Kenya in AMGC Board of Directors

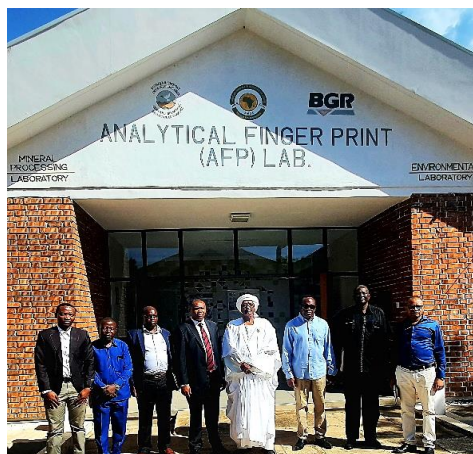
Mr. Ibrahim Shaddad, the Director General of AMGC expressed gratitude and appreciation for Kenya's sustainable support through the esteemed MIBEMA, which enabled the Centre to implement its activities to its highest peak. He briefed the delegation among other issues regarding challenges facing the Centre, performance of AMGC and arrangement for the preparation of AMGC Policy Organ meetings soon to be held in Nairobi and chaired by the current Chairman of AMGC Governing Council, Hon. Salim Mvurya, the CS for MIBEMA of Kenya.

The PS met Miss. Gift Mbithe who is a graduate in Analytical Chemistry from University of Embu in Kenya. Miss. Gift is an apprentice in Chemical and Environmental Department of AMGC for 9 months starting from April 2023. This program is usually provided free of charge by the Centre to fresh graduates from Member States. Mr. Alijah Mwangi assures the sustainable support of Kenya to AMGC and expressed his high concern that Kenya will leverage on the services of AMGC to improve on its minerals value chains.

It is worth mentioning that Kenya joined the Centre in July 2006 becoming the 7th member state, chaired the AMGC Governing Council and hosted the Policy Organ Meetings three times (May 2011, June 2014 and May 2015) and the coming one will be hosted by Kenya under the chairmanship of Hon. Salim Mvurya.











The African Minerals and Geosciences Centre (AMGC) received *5* undergraduate students taking Bachelor of Science in Environmental Laboratory Science and Technology (BSc. ELST) from Ardhi University (ARU) in Tanzania. The students will be attending an 8-week Industrial Training in the Chemical and Environmental Department of AMGC from 17 July 2023 to 8 September 2023. The Centre has continued to offer free of charge Industrial Training programs for university students from Member States in different occasions for capacity building.

The names of students from ARU are;

- *1. * Miss. Arafa H. Mlindwa**
- *2. * Miss. Clara A. Lyimo**
- *3. * Miss. Joyce E. Lujuo**
- *4. * Miss. Redasta E. Mpwapwa**
- *5. * Miss. Witness S. Madege**

APPRECIATION & GRATITUDE

The African Minerals and Geosciences Centre (AMGC) would like to express much appreciation and gratitude to Tanzania, Angola, Sudan, Kenya, Uganda and Mozambique for fulfilling their financial commitments to the Centre.



EVENT

CAG29 Second Circular

SECOND CIRCULAR



29th Colloquium of African Geology

"The earth sciences and Africa's development: current realities, future projections"

26 – 29 September 2023 | Windhoek, Namibia

CALL FOR ABSTRACTS



The Lion's Claw, a distinctive rock formation at the World Heritage site of /Ui-//aes, also known as Twyfelfontein in the Kunene Region, Namibia

"Namibia the World's Geological Paradise"

Spearheaded by the Geological Survey of Namibia

New Courses



AMGC

New Courses



The Mineralogy, Petrology and Gemmology Department is happy to announce the following new training courses

1

Gemstone/Mineral Estimation and Valuation

2

Jewellery Design

3

Gemstone Exploration & Gem Safari's

www.seamic.org

More Info

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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 a 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		
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		
Spectrometric Methods of Analysis.	2 Weeks	\$800
Analysis of Gold and Other Base Metals	2 Weeks	\$800
Quality Management Section		
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		
Mineralogical and Petrological Sample Preparation and Analytical Techniques	2 Weeks	\$800
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 methods	2 Weeks	\$800
Industrial Minerals Application Department		
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		
Practical Mineral Processing and The Basic Mineral Processing Flowsheet	2 Weeks	\$800
Sampling and Sample Preparation for Laboratory Testing	2 Week	\$800
Artisanal and Small Scale Mining Activities	2 Weeks	\$800
Techniques of Gold Cyanidation	2 Week	\$800
Mineral Economics	2 Weeks	\$800
Metallurgical Balance and Process Evaluation	2 Weeks	\$800
Extractive Metallurgy – Metallic Ore Deposits, Metal Extraction and Purification Processes	2 Weeks	\$800
Environmental Management in Mining	2 Week	\$800
Geo-information Department		
GIS and Remote Sensing for Mineral Exploration and Geological Mapping	2 weeks	\$800
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 Exploration	2 weeks	\$1,200
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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www.seamic.org



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
- ✓ Mineralogical evaluation of industrial minerals, ore minerals and clays
- ✓ Gemstone identification and grading
- ✓ 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
- ✓ Petrographic examination of thin sections and polished sections
- ✓ Evaluation of industrial minerals, ore minerals and clays
- ✓ Gemstone testing and identification
- ✓ Diamond grading
- ✓ Consultation and Expert opinion



Polishing Machine for Polished Mount Preparation

TRAINING SERVICES

- ✓ Mineralogical and petrological sample preparation and analytical techniques
- ✓ Gemstone Characterization, Identification and Value Addition
- ✓ Gemstone Identification Techniques
- ✓ Gemstone Value Addition Techniques (Gem Cutting)
- ✓ Gemstone Cabochon making and Carving
- ✓ Gemstone Faceting
- ✓ Gemstone Identification, Value Addition and Trading



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