# October 2023 African Minerals and Geosciences Centre | +255 22 2650347



# **AMGC** Director General's Message

A courtesy visit to discuss working relationship was paid to United Nation Economic Commission for Africa (UNECA) headquarter as well as Ministry of Mines, Ethiopia Ethiopia. Addis Ababa, in Discussion was held in Ministry of Mines, **Ethiopia** regarding **Preparation Ethiopia** of

Technology Expo (MINTEX) 2023 in Addis Ababa during 24-28 November 2023. AMGC was honored to be invited by the High Commission of Uganda in Dar es Salam to participate in 61 Independence Day of Uganda, the member state of AMGC. A number of certificate handout ceremonies of training courses were held at AMGC for 2 undergraduate students from Dar es Salaam Institute of Technology (DIT) in Tanzania, one geologist from INAMI of Mozambique who attended 2 weeks training course on Geochemical Exploration and Mapping, 2 AMGC professionals in addition to 4 professionals from Geological Survey of Tanzania and Mining Commission for Basic Scanning Electron Microscope User Training course in Analytical Fingerprinting Laboratory and 2 AMGC professionals for a training course on User Maintenance of Tescan VEGA 3 (LaB6) SEM in AFP Laboratory. A familiarization visit to AMGC paid by both **Director General of INAMI of Mozambique and Director** General of National Directorate for Geology and Mines of Mozambique. A visit to AMGC paid by Chairperson of the University of Dar es Salaam Mining and Metallurgy Students Association looking for academic and career guidance. AMGC has assigned Mrs. Regina Mbwambo as Technician in the Industrial Minerals a Junior Application Department (IMAD) at AMGC.

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Certificate handout ceremony of 2 AMGC staff for a training course on User Maintenance of Tescan VEGA 3 (LaB6) SEM in AFP Laboratory Page 5

Certificate handout ceremony at AMGC for a geologist from INAMI of Mozambique attended 2 weeks training course on Geochemical Exploration and Mapping Page 6

A familiarization visit to AMGC by both Director General of INAMI of Mozambique and Director General of National Directorate for Geology and Mines of Mozambique Page 7-10

A visit to AMGC by Chairperson of the University of Dar es Salaam Mining and Metallurgy Students Association looking for academic and career guidance Page 11 AMGC has assigned Mrs. Regina Mbwambo as a Junior Technician in the Industrial Minerals

Junior Technician in the Industrial Minerals Application Department (IMAD) at AMGC Page 12

Director General of the AMGC had paid a courtesy visit to the Geological Institute of Ethiopia (GIE) and discussed Preparation of Ethiopia International Mining and Technology Expo (MINTEX) 2023 in Addis Ababa Page 13-15

Annual Conference of Tanzania Geological Society to be held in Zanzibar during 9-11 November 2023

**Training Courses** 

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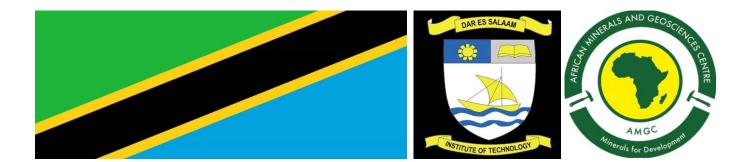




Mr. Ibrahim Shaddad, the Director General of the AMGC paid a courtesy visit to the United Nation Economic Commission for Africa (UNECA) headquarter based in Addis Ababa, Ethiopia. The Director General of AMGC met Dr. Nassim Oulmane, Director a.i. of Technology, Climate & Natural Resources Management Division. The meeting was attended by Dr. John Robert Sloan, the Economic Affairs Officer of Green and Blue Economy Section, Technology, Climate Change and Natural Resources Management Division (TCND) at UNECA. Temporarily both Dr. Nassim and Dr. John represent UNECA in Policy Organs of AMGC after Dr. Jean Director of Technology, Climate & Natural Resources Management Division being transferred to UN Headquarter in New York. Mr. Shaddad briefed the two UNECA officials regarding performance of AMGC, developments and challenges facing the Centre as well as arrangements for holding the AMGC Policy Organ Meeting, which is expected soon to be hosted and chaired by Kenya, the member state of AMGC in Nairobi. It is worth mentioning that the Centre has been established since 1977 with the help of United Nation Economic Commission for Africa (UNECA). The UNECA is represented in the three levels of AMGC' higher policy level organs which are Ministerial Governing Council (GC), Standing Committee of Officials (SCO), chaired by UNECA and Board of Directors (BOD) vice chaired by UNECA. The post of incoming AMGC's Director General will be widely advertised and the selection panel is chaired by Executive Secretary of UNECA.



Happy 61 Independence Day of Uganda, the member state of AMGC:-Uganda has joined the Centre since January 1980, and out of the six Directors General managing the Centre, the late Mr. James Kagule-Magambo was the 2nd Director General from 1986-1994. In 2004/2005, Uganda was the chair of the Governing Council, and the 25th Governing Council Meeting chaired by the outgoing Chairperson of the Governing Council, then Minister of Energy and Mineral Development, Hon. Mrs Syda N M Bbumba was held in Kampala, Uganda on 26 May 2005.





The certificate handout ceremony at the African Minerals and Geosciences Centre (AMGC) on Friday, October 13, 2023 for two undergraduate students from Dar es Salaam Institute of Technology (DIT) in Tanzania who have successfully completed their Practical Training program at AMGC in the Chemical and Environmental Department and Mineral Processing and Small-Scale Mining Department. The program was conducted for 9 weeks from 14 August 2023 to 13 October 2023.

During the program, the students were able to put into practice the knowledge they got from the university and they were able to appreciate various applications of analytical Chemistry and mining Engineering in the mineral sector.

The two undergraduate students are;

- 1. Salim A. Kisemile, Bachelor of Tech in Laboratory Science.
- 2. Mohamed Rashid Mohamed, BSc. Eng in Mining Engineering

These programs are part of AMGC roles in capacity building for sustainability of mineral services provision and they are freely given to university students from Member States.





The African Minerals and Geosciences Centre (AMGC) had received 4 trainees from the Government of the United Republic of Tanzania Geological Survey of Tanzania (GST), and Mining Commission for the Basic Scanning Electron Microscope User Training course in the Analytical Fingerprinting Laboratory (AFP). The trainees are joined by 2 trainees from AMGC. The training was facilitated by BGR project under the leadership of Mr. Wilhelm Schink, Project Manager, and it was conducted by Eng. Manuel Grobbelaar (Manny), Senior Service Engineer from Wirsam SCIENTIFIC, South Africa. The training conducted for 5 days from 16-20 October 2023. The list of trainees is as follows;

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

The conduction of this training is one of the strategic technical measures for sustainability of the AFP Laboratory which is owned by the International Conference for Great Lakes Region (ICGLR).







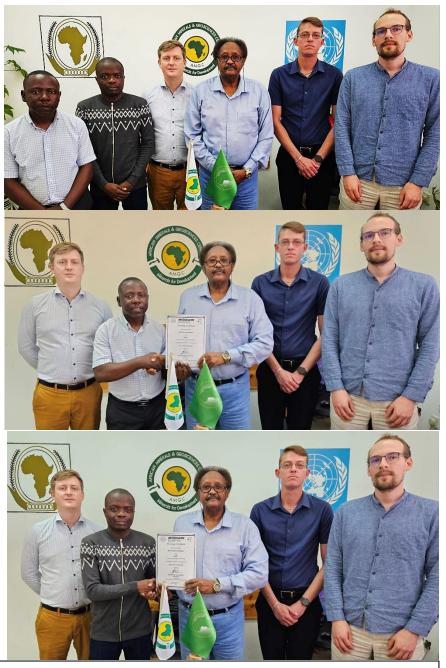
Certificate handout ceremony at African Minerals the and **Geosciences Centre (AMGC) on 25 October 2023. This ceremony** follows the successful of completion the training course on \*Supervisor Level\* to Perform User Maintenance on Tescan VEGA 3 (LaB6) SEM in the AFP Laboratory.

Two staff from the Centre attended the training;

1. Mr. Charles Buteta (Quality Manager & Manager of Chemical and Environmental Department)

2. Mr. Hassani Z. Makonde, Chemist from Chemical and Environmental Department of the Centre.

The training was facilitated by BGR project under the leadership of Mr. Wilhelm Schink, Project Manager, and it was conducted by Eng. Manuel Grobbelaar (Manny), Senior Service Engineer from Wirsam SCIENTIFIC, South Africa. The training was conducted for 2 days from 23-24 October 2023.



Again, the conduction of this training is one of the strategic technical measures for sustainability of the AFP Laboratory, which is owned by the International Conference for Great Lakes Region (ICGLR).Region (ICGLR).

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The African Minerals and Geosciences Centre (AMGC) received a geologist Mr. Azarias Felciano Macuacua from National Institute of Mines (INAMI) in Mozambique. Mr. Macuacua attended a 2-week training course on Geochemical Exploration and Mapping which was conducted by the Geo-Information Department of AMGC from 02-13 October 2023. A certificate handling ceremony was done to the trainee by the end of the course.



Mr. Elias Xavier Daudi, the Director General of the National Institute of Mines (INAMI) of Mozambique at the Ministry of Mineral Resources and Energy in Mozambique as well as a distinguished member of the AMGC Standing Committee of Officials paid a familiarization visit to the African Minerals and Geosciences Centre (AMGC) on 27 October 2023. Mr. Elias Daudi was accompanied by Mr. Candido Acacio S. Rangeriro, the Director General of National Directorate for Geology and Mines of Mozambique. The two top officials were received and welcomed by Mr. Ibrahim Shaddad, the Director General of AMGC, who expressed his gratitude and appreciation to Mozambique for its sustainable support to the Centre. Mozambique one of the founding member states of AMGC, has been unreservedly supporting the Centre since its establishment in 1977. Mozambique has also been among the leading member states that are using the Centre's mineral services and training.

Due to Mozambique's significant contribution to the operation of AMGC as continental Centre of Excellence, shouldered three times hosting Policy Organ Meetings of the Centre (i.e., 8th Governing Council Meeting held on 2-3 October 1987, 18th Governing Council Meeting held on 5 August 1998 and 27th Governing Council held on 31 May 2007) as well as more than four times the responsibility of chairing the Governing Council of the Centre.

Out of the six Directors General managing the Centre since 1977, Mozambique was elected in 1996-2002 to manage the Centre by Dr. Antonio Maria Pedro, the current Acting Executive Secretary of the United Nations Economic Commission for Africa (UNECA).

















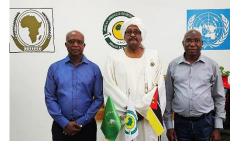


















A visit to the African Minerals and Geosciences Centre (AMGC) by the Chairperson of the University of Dar es Salaam Mining and Metallurgy Students Association looking for academic and career guidance.



The African Minerals and Geosciences Centre (AMGC) has assigned Mrs. Regina Mbwambo as a Junior Technician in the Industrial Minerals Application Department (IMAD) at AMGC and issued her a re-categorized employment contract. Mrs. Regina Mbwambo has been categorized as a laboratory assistant and a ceramic potter at the Centre for the past 25 years since 1998. On 18<sup>th</sup> October 2023 she submitted to the Management of AMGC her academic credentials after completion of courses in English and pottery and therefore in accordance with the Staff Rules and Regulations of AMGC, she has been re-categorized to the level of a Junior Technician at the IMAD starting from 18th October 2023.



The Director General of the AMGC paid a courtesy visit to the Geological Institute of Ethiopia (GIE); Ministry of Mines of Ethiopia on 6<sup>th</sup> October 2023. A meeting was held with Dr. Degene Hailemariam, the Director General of GIE as well as the Chairman of AMGC Board of Directors. The meeting was attended by Dr. Guta Legesse Tessema, the General Director the Mineral Industry Development Institute (MIDI) of Ethiopia. A number of issues were discussed including: -

- 1- An invitation was extended to H.E. Eng. Habtamu Tegagn, the Minister of Mines of Ethiopia to visit AMGC. Dr. Degene, Dr. Guta and Ms Enatfenta Melkau Gebre, former Director General of the GIE are also invited to pay a familiarization visit to AMGC during their expected participation in PanAfGeo-2 WPC; Regional Workshop on ASSM for English speaking countries in Eastern and Northern Africa Region which will be held in Dar es Salaam, Tanzania on 12-17 November 2023.
- 2- Preparation of Ethiopia International Mining and Technology Expo (MINTEX) 2023 in Addis Ababa. Hundreds local and foreign companies will participate in this international event. Mining companies, jewelry manufacturers, importers, exporters, mining technology manufacturers, and financial institutions will all take part. The participation of foreign mining companies in the expo will give them an opportunity to observe the mining investment opportunities in Ethiopia, engage in mining investment and will create an opportunity to promote new technological options for the mining sector in Ethiopia. The opening ceremony of MINTEX 2023 will be attended by H.E. Eng. Habtamu Tegagn, the Minister of Mines of Ethiopia, Ministers, Head of States and invited guests. The guest of honour will be H.E. Sahle-Work Zewde, the President of Ethiopia or H.E. Dr. Abiy Ahmed, the Prime Minister of Ethiopia.

# **EVENTS**

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#### EXTRAORDINARY MINERAL POTENTIAL

Did you know that Ethiopia has a mining pedigree dating back more than a millennium? Despite this long history, today commercial mining is still in its early stages, providing ample opportunity for those wishing to invest in its mining sector- like you.



### SPOTLICHT 3: TANTALUM/LITHIUM

Ethiopia is already the sixth biggest producer of tantalum in the world. The Kentiche tantalite mine in the Oroma region, in the southern part of Ethiopia, is estimated to contain sufficient' deposits to produce as much as 9,000 tones of processed tantalum products over the next 15 years, and beyond. The mine also contains quartz and feldspar.



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LOOKING FOR If you're looking for a mining destination with the right mix of mineral potential, infrastructure development, and government support for investors - conside governa

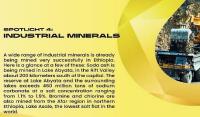
A NEW DAWN FOR ETHIOPIA'S MINING SECTOR

a's virtuality untapped, diverse, and interal resources offer huge potential unifies for exploration and development. I unuffet of exploration and development in potential potential coupled is industrial, energy, and construction far the extraordinary potential coupled improving government politicies and forms means Ethiopic is now very much indiar screen of International Infinition



POTLICHT 1: GOLD

Artisan miners have mined gold in Ethiopia for thousands of years, and gold deposits are widespread across the country. The Ministry has Igranted seven (?) large-scale gold mining licenses to international and national companies.





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MINING AND TECHNOLOGY

Extraordinary mineral pote A stable legal framework Major investments in infra accessibility

A consistent and transparent mineral licensing system through the Ethiopian mining cadastral portal



SPOTLICHT 2

POTASH

# 1. ETHIOPIA'S ECONOMIC RECORD GROWTH

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Ethiopia has seen as growth in the last ten years growth in the last ten years intent the Ten-year (2021-2030) er omic stability sustainable opia's econor a 115.4 % expan macroecono rapid and growth. Ethic has shown a mining sector with \$680 m for the 2020-2021 fiscal year



SPOTLICHT S: COAL

Ethiopia offers some17 prominent locations in which potential coal resources have been identified, which amount to over 380 million tons of coal. At the same time, other explorations indicate that the figure could be much more than the projected figure. Reports indicated that Amharo, Benishangul-Gumz, Oromia, and People's Region have some of the richest coal reserves in the country.

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የማዕድን ሚኒስቴር **Ministry of Mines** 

#### POTLICHT 6 GEMSTONE

Ethiopia's gemstone potential is exceptionally promising. Ethiopia has many varieties of high-quality gemstones, including opois, emeraids, sopphines, amazonits, amber, rubies, tourmaline, quarmarine, chroporase, periodit, and as well as vorious types of quarts, agats, jasper. New especially exciting discovery of the color-chronge expercielly exciting discover of the color-chronge chrome grossular green gamet. These new discoveries have brought Ethiopia's total reported gems up to over 40. Ethiopia has also become a significant producer of opai, supphine, and investors to bring these entroordinary gemstones to a global market. Read more about these opportunities below.





Ethiopia's petroleum exploration dates back to 1920 with few pauses due to changes in government regimes. More than 30% of sedimentary rocks cover six known sedimentary basins: Ogaden, Southern Ritt Valley, Gambella, Abay, Metema, and Mekele.

#### 3 GEOTHERMAL RESOURCES

The estimated potential of geothermal energy in Ethiopia is around 10,000 Megawatts. These resources are located abundantiy in the main Rift Valley of Ethiopia. About eleven independent power produces rare ngaged in the exploration of geothermal resources. It is estimated to produce ranging from an inferred 70 Megawatts to 790 Megawatts.



#### A STABLE LEGAL FRAMEWORK

The Ethiopian government applies to deliver a regulatory regime that is both transparent and predictable. Investors are exempt from import duties for all equipment, machinery, and vehicles that are used for the purpose custom duties during the exploration and development period, and consumables for the mine life. The mining law also guarantees the opening and operation of a foreign of a portion of foreign currency earnings, and the remitance of profits, dividends, and interest out of Ethiopia.



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### SPOTLICHT 7 MARBLE

Marbie has been mined in many parts of Ethiopia since ancient times and the deposits are inexhaustible. Most morble deposits there is a wide range of colors and the quality is supreme. Ethiopian morbles vary within a large color spectrum that ranges from pure white marbie to grey, greenish, pink, and sky-blue varieties. Marble occurrences in Ethiopia are found within the Precembrian basement racksofthe.county.especially inheliow grades northern Ethiopia (kelafinas, EndoTikur, Newi, Akmara, Needi, Berdad, Taget, Adiwayane, Emizong marble deposits), western (Mora and Baput, Bulen, Ganzi, Baruda,Mankush and Daleti morbie deposits).

Oil prospect areas have also been identified in the Rift Valley basin and Abay Basin including discoveries made in Ogaden Basin. The government of Ethiopia seeks to engage more international firms to compete for multi-billion US dollar projects, including exploration and development of oil and gas fields, to all the second second second patholem products, reintery construction, and associated infrastructure.

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ONE-STOP-SHOP

To make their investors can easily access all available and approvals, the government of thinoip has bunched a one-stop-shop service. Presess refer to the newly of the service service of the service of the newly well of the service of the service

MODERN GEO DATA TO SUPPORT

EXPLORATION

As part of the government's firm commitment to encouraging exploration activity, and as part of the Home-Grown Economic Reform and the Ten-year Development Plan, further activity will be significantly ramped up in the coming years. The following largets have already been set:

MINING AND TECHNOLOGY EXPO 2023 REGISTER NOW \$ 0909444441 / 0909444442 24-28 @ MILLENNI IZED BY MINISTRY OF MINES

#### SPOTLICHT 8: CEMENT

The Ethiopian cemant industry is a booming business, with the growing population and the rise in construction activities increasing the demand for ement products. According to the Ethiopian Geological Survey, Ethiopia's limitations results includes close to 57 million tons if growing and 47 million tons of purvice deposits have also been identified.



#### FERTILIZER PLANT, GAS TO POWER, AND LPG

Turning the natural gas resource into sustainable growthiot thiopla's development is heavily dependent on improving power generation. For a population of +120 million, only 44% have access to electricity with 33% angrid and 1% off-grid. The country generation with other sources such as solar, wind and geschemat.

# Airborne geophysics surveys will be increased from the current 30% to 100% by the end of the plan

from the current 30% to 100% by the end or time puer-period. Geo-hazard study coverage (at ascale of 1250,000) will increase from the current 42% to 100% by the end of the plan period. 100,000 geoches mapping will also commence. 100,000 geoches mapping will also commence de swell as a global geochemical baseline has been initiated recently to cover the entire landmass of the country within a five-year period.





# **2023 ANNUAL CONFERENCE**

Zanzibar

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and arrest and and the state



Golden Tulip Hotel Zanzibar Airport

OCTOBER



**Abstract Submission Deadline** Submit at info@tgs.or.tz







**Pre Conference Excursion** Excursion is only for 80 peoples, **First come first served** 

# **New Courses**





# **New Courses**

The Mineralogy, Petrology a n d Gemology Department is happy to announce the follow• Ing new training courses



Gemstone/Mineral Estimation and Valuation



Jewellery Design



Gemstone Exploration & Gem Safari's

www.seamic.org

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.

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### 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			
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	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			
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 Dep	partment	
Practical Mineral Processing and The Basic Mineral	2 Weeks	\$800
Processing Flowsheet		
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	2 Weeks	\$800
Extraction and Purification Processes		
Environmental Management in Mining	2 Week	\$800
Geo-information Department		
GIS and Remote Sensing for Mineral Exploration and	2 weeks	\$800
Geological Mapping		
<b>Best Practices in Mineral Resource Estimation</b>	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



# African Minerals and Geosciences

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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
- See Mineralogical evaluation of industrial minerals, ore minerals and clays
- Gemstone identification and grading
- Specialized training in Germology, Gernstone Cutting and Polishing and Mineralogical and Petrological Sample preparation and Analytical Techniques.



Petrography and Gemmological Microscope

#### 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

### TRAINING SERVICES

- Mineralogical and petrological sample preparation and analytical techniques
- Gemstone Characterization, Identification and Value Addition
- Semstone Identification Techniques

Ibrahim Shaddad Director

Charles Buteta Quality

**Environmental Department** 

Manager/Manager,

charles@seamic.org

Chemical and

ibrahimshaddad@seamic.org

- ✓ Gemstone Value Addition Techniques (Gem Cutting)
- Gemstone Cabochon making and Carving
- ✓ Gemstone Faceting

General





Gemstone Identification, Value Addition and Trading

# Contacts

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