



**International Conference**  
*on*  
**Geology, Mining, Mineral and Groundwater Resources**  
**of the Sub-Saharan Africa:**  
*Opportunities and Challenges Ahead*  
**(11-13 July, 2017, Livingstone, Zambia)**



Livingstone, home of the Mighty Victoria Falls: "the Smoke that Thunders"

*Organized by*

**School of Mines, University of Zambia (UNZA)**

*in Collaboration with:*

Ministry of Mines and Minerals Development, Zambia  
Ministry of Energy and Water Development, Zambia  
Water Resources Management Authority, Zambia  
Copperbelt University, Zambia  
National Institute for Scientific and Industrial Research, Zambia  
Geological Society of Africa  
NEPAD-Southern African Network for Water Centres of Excellence (SANWATCE)  
Africa Minerals and Geosciences Centre, Tanzania  
Zambia Academy of Sciences  
The World Academy of Sciences (TWAS)

## **Background**

Sub-Saharan Africa is endowed with abundant mineral wealth. The mineral industry is the backbone of the economy for most countries in the region, and will continue to be so in the foreseeable future. The mineral export constitutes an important source of this region's gross income, and in many countries mineral exploration and production comprise a major part of their economic activities and employment.

However, currently most mining industries in the region are challenged with high exploration costs; insufficient numbers of well-trained manpower; inadequate infrastructure for research, development and innovation; and less efficient mining practices. These factors have resulted in less productive and competitive mining and processing operations. Even after more than a century of geological mapping, mineral exploration and mining activities, large tracts of the African terrain are still unmapped, and geological research has not received the needed attention and priority. As a result, mineral resources of many countries in the region are either under-exploited, or their potential still remains unknown. However, despite this, investments in exploration and development in the minerals' industry has slowly gained momentum in the last few decades.

Groundwater forms the most important source of water supply in many of the continent's urban, peri-urban and rural areas. However, it has suffered from inefficient and uninformed development and management practices arising mainly from users' and managers' inadequate understanding of the resource. Currently, there is inadequate hydrogeological information and/or data, and knowledge of the available groundwater resources in most of Sub-Saharan countries, in terms of both its quality and quantity. As such, the resource is confronted with numerous challenges that include, under exploitation of the resource. Further, by virtue of the resource being invisible, it is also threatened by potential over-abstraction, contamination from rapidly urbanizing centres, and climate variability in the context of climate change. However, these issues are now beginning to receive the much needed attention, as most countries within the Sub-Saharan region are trying to adopt integrated water resources management principles through legislative (policies and laws) changes..

In the above context, the Conference is being organized at an opportune time, when most African countries are in the process of drafting or revising mining strategies, laws and regulations targeted to be completed by 2018, and which puts them in line with the African Mining Vision-2009. Hopefully, these will ensure an equitable and better managed mining sector, along with the regard for the quality and quantity of Africa's water resources; these are keys for the resources' sustainable development and the well-being of Africa's people.

Further, the African Union's vision seeks to have a mining sector that is transparent, equitable and with an optimal mineral resources' exploitation level that underpins broad-based sustainable growth and socio-economic development (African Union, 2009). Therefore, any sound investment environment and opportunity in Africa is able to bring socio-economic benefit to the continent's broader community, as well as good investment returns to investors. What is needed at present is increased investment in research, development and innovation with adequate environmental considerations that are backed by pragmatic policies and legislations to ensure better management of these sectors. Consequently, this might need to begin with renewed global and regional attention for fundamental geoscientific research, which generates advancement in knowledge and understanding of academic interests, and be able to guide future exploration for new mineral deposits and address environmental and many other pressing issues in the exploitation of these resources.

## **Aims and Objectives**

This Conference aims to bring together academics and researchers, industry and society (consumers of these goods and services), and key policy makers within the framework of the theme to: share their knowledge and experiences in order to explore ways and means of meeting the underlying challenges and prospects in basic and applied geoscientific research exploration and mining, water resources development and management; build local capacity

and geoscience education in Africa; provide an important forum to enhance regional and international co-operation; and present a forum for students, young scientists and professionals to listen, interact and develop contacts with international delegates and open prospects for future collaborative research, and even employment.

### **Broad Themes of the Conference**

#### **A. Geology**

1. Geology and geodynamic evolution of Africa
2. Mineral deposits and ore forming processes
3. Mineral resources' exploration and evaluation
4. Hydrogeology and Hydrogeochemistry
5. Geothermal and other energy resources
6. Geohazards

#### **B. Mining**

1. Mining technology, instrumentation and mineral economics
2. Mining at depth and Mass Mining
3. Geo-mechanics
4. Artisanal and Small Scale Mining
5. Gemstones mining
6. Groundwater in mining areas

#### **C. Mineral processing and Extractive metallurgy**

1. Mineral beneficiation
2. Pyrometallurgy
3. Hydrometallurgy and Electrometallurgy
4. Metallurgical accounting

#### **D. Emerging Issues**

1. Mining industry, environment and sustainable development
2. The African Union's Mining Vision (2009) and its adaptation (process) by the member countries
3. Energy in Mining and Mineral processing
4. Women in mining – Challenges for sustainability
5. Water resources and climate change
6. Groundwater, rapid urbanization and planning
7. Legal and Regulatory frameworks in mining and water resources sectors
7. Remote sensing in mineral and water exploration.

### **Keynote speakers**

There will be key note speeches on the broader themes. The names of speakers will be highlighted in the second circular of the conference.

**Date and Venue:** July 11-13, 2017, Chrismar Hotel, Livingstone, Zambia

### **Registration Fees (in US Dollars)**

Category	Early bird (until 15 <sup>th</sup> April, 2017)	Late registration (until 15 <sup>th</sup> May, 2017)
General participants	250	300
Accompanying person	150	200
Student	100	150

The registration fee will cover an abstract volume, conference program, stationery, three lunches, tea/coffee during session breaks at the conference venue and transfers of participants from designated hotels to the venue and return. Other expenses such as accommodation, dinner etc. are not covered by the registration fee.

### **Online Registration**

On-line registration for the conference is now available on the Conference website (website: [www.unza.zm](http://www.unza.zm)) or the registration form can be download. The scanned and filled form must be sent to the Conference Secretariat to < [int.conf.geosciences@unza.zm](mailto:int.conf.geosciences@unza.zm) > or by post to:

#### **The Conference Secretary,**

School of Mines,  
University of Zambia,  
Great East Road, P.O. Box 32379,  
Lusaka, Zambia.

### **Payment of Registration Fee**

Payments towards the registration fees can be made on-line or via bank transfer; the details of which will be provided in the second circular (15<sup>th</sup> July, 2016).

### **Registration Deadlines**

Final Registration must reach to the organizers **latest by 15<sup>th</sup> April, 2017**, and late registration by **15<sup>th</sup> May 2017** (Download registration form the website: [www.geoscience\\_Int.conference.unza.zm](http://www.geoscience_Int.conference.unza.zm))

**Travel Support:** The organizing committee will try to raise some travel grants from donors for a very limited number of students and deserving candidates to participate in the conference. More information on this support will be provided later.

### **Abstract Submission**

Abstracts must be submitted latest by **15<sup>th</sup> March 2017**. Any abstract received after this deadline will not be included in the Abstract Volume. All submitted abstracts will be reviewed by the Scientific Committee and only accepted abstracts will be invited either for oral or poster presentation. Please indicate your preference while submitting the abstract.

Each abstract must be limited to 500 words and without any figures or tables. It should be saved as MS Word format, doc. file. Leave 25 mm margin on all sides. Titles should be typed in Times New Roman with 14 pt bold font size in upper and lower cases, and left justified. Affiliations must be in upper and lower case, left justified in Times New Roman font 10 pt with numbered superscripts to indicate the affiliation of each contributor and with an E-mail address of the corresponding author in the parenthesis. The main text will be single spaced text in Times New Roman font 10 pt without section headings.

### **Poster Session**

There will be poster sessions at the Conference venue. More details on the poster session will be provided in the second circular.

### **Post-Conference Geological Field Excursion (Excur. No. 1)**

Livingstone-Lusaka-Copperbelt-Northwestern (14 – 16<sup>th</sup> July). This excursion will provide an opportunity to see a cross section of the geology from the south to the north of the country, as well as visit to one of the largest open-cast copper mines of Zambia. More excursions within Zambia are planned and information will be provided in the second circular.

### **Accommodation**

Livingstone is a principal tourist city in Zambia due to its proximity to the world famous Victoria Falls and its historic significance. Participants can find a wide choice of accommodation in the city ranging from low budget lodges to star hotels. Some of the hotels are situated in prime locations along the Zambezi River, close to the Victoria Falls. Chrismar Hotel is the venue of the Conference. It is a premier hotel in Livingstone with all modern conference facilities and comfortable rooms for accommodation as well. It is located within 5-minute drive from the

Victoria Falls. The organizers have secured a package for registered conference participants with discounted room rates in Chrismar Hotel. See below for other accommodation options.

1. Chrismar Hotel (Total 75 rooms, Conference Venue)

TEL: (+260) 213 323141. Fax: +260 213 323142

Web: <http://chrismarhotels.com/hotels/livingstone/facilities/>.



Rooms	Rate in Zambian Kwacha (Inclusive of all taxes) Includes breakfast and free wifi
Single	1,000
Double	1,000

2. Avani Victoria Falls Resort (Total 225 rooms). TEL: (+260) 978777044  
or (+260) 213 321 122. Web: [victoriafalls@avanihotels.com](mailto:victoriafalls@avanihotels.com)

Rooms	Rate in Zambian Kwacha (Inclusive of all taxes) Includes breakfast and free wifi.
Single/Double	3,324
Family	3,324
Suite	6,526

3. Fairmount Hotel (Total 107 rooms). TEL: (+260) 213-320075 or +260-213-320723/8  
Cell: (+260) 97 779 431. Web: [www.newfairmounthotel.co.zm](http://www.newfairmounthotel.co.zm)

Rooms	Rate in USD (Inclusive of all taxes) Includes Breakfast and Free wifi
Single	50
Double	55

4. Hotel Chapa Classic Lodge (Total 25 rooms). TEL. (+260) 0026 21-3-322065,  
(+260) 97-7796 710. Web: [www.chapaclassiclodge.com](http://www.chapaclassiclodge.com)

Rooms	Rate in Zambian Kwacha (Inclusive of all taxes) Includes Breakfast and Free wifi.
Deluxe Single/Double	380
Standard Single/Double	280
Standard Twin beds	300

Exchange rate (fluctuates): 1 US\$ = Approx. 10.5 Zambian Kwacha (May, 2016)



### **Livingstone-The Host City**

Livingstone is considered as the tourist capital of Zambia, and has a population of just over 1.3 million. Established in 1904, it was the capital of Northern Rhodesia (present Zambia) until 1935. The town was named after David Livingstone, the Victorian explorer and missionary, who visited the site in 1855. The Victoria Falls (locally known as 'Mosi-oa-tunya' - the Smoke that Thunders) lies only about 10 km from the city.

The Victoria Falls on the Zambezi River is considered as one of the Seven Natural Wonders of the World and provides one of the most spectacular sceneries in Africa. It is the largest falls based on its width of over 1.7 km with a fall height of 108 m, resulting in the world's largest sheet of falling water. The waterfall is roughly twice the height of North America's Niagara Falls. There are also, famous national parks in the vicinity of Livingstone in addition to many other famous wildlife national parks in Zambia.

### **Travel to Lusaka and Livingstone**

Kenneth Kaunda International Airport of Lusaka, the Capital of Zambia, has direct air-links to many destinations in Africa and Middle East such as Dubai, Addis Ababa, Johannesburg, Nairobi, Harare, Windhoek, Gaborone, Durban and Kigali. Similarly, Livingstone is linked with flights from Lusaka and also from Johannesburg, Nairobi and Harare. Livingstone lies about 500 km to the south west of Lusaka and is connected to Lusaka by an excellent highway, and it is about six (6) hours' drive by road from the capital.

### **Visa Requirements**

Participants are advised to contact the Zambian Embassy/High Commission/Honorary Council offices in their respective countries regarding the visa requirement and for visa application to enter Zambia before their journey. Alternatively the Zambia Immigration website ([www.zambiaimmigration.gov.zm](http://www.zambiaimmigration.gov.zm)) may also be visited. Invitation letters will be issued by the organizers to the registered participants to facilitate the visa application process.

### **Sponsorship of conference events**

The organizers will be pleased to receive sponsorship for any individual events of the conference such as the venue cost, conference materials, field excursions, support for travel and registration fee to deserving students/participants, and a conference dinner and lunches. Appropriate acknowledgements of the support will be made at the conference venue and in publications related to the conference.

### **Important Deadlines**

Release of Second Circular:	15 <sup>th</sup> July, 2016
Abstract submission deadline:	15 <sup>th</sup> March 2017
Release of Third and Final Circular:	31 <sup>st</sup> March, 2017
Early bird registration:	15 <sup>th</sup> April, 2017
Late Registration:	15 <sup>th</sup> May, 2017.

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### Conference Secretary

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