



## 8<sup>th</sup> SGA-IUGS-SEG-UNESCO Short Course on African Metallogeny

9 – 13 October 2023

Johannesburg, South Africa



# The role of Mineral Wealth in the Energy Transition – Southern Africa

This short course will address the broader context of the achievability of the energy transition by considering the available mineral resources in southern Africa and unpacking the role that southern Africa can play. New concepts and methodologies for sustainable and energy-efficient mining and ore processing will be presented.

We will visit mines actively involved in broadening their energy mix by the rapid deployment of cleaner, renewable energy.

The energy transition frequently makes news headlines and dinner party conversations. But does society really understand the mineral requirements to meet the ambitious targets set by politicians?

Southern Africa is heavily dependent on fossil fuels, specifically coal, for its primary energy requirements. Southern Africa also hosts a multitude of mineral commodities required for the energy transition, including vanadium, PGE's, manganese, copper, cobalt, CRMs, etc. As another driver, southern Africa is challenged by frequent electricity outages, which is causing many industries to speed up the expansion of their energy-mix portfolios. Wind, solar, geothermal, hydropower, tidal and biomass all potentially have a role to play.

### The role of Mineral Wealth in the Energy Transition – Southern Africa

#### TOPICS

- Materials, including Li, Co, Cu, Ni, Mn, Al, phosphates and graphite, required for the energy transition
- Environmental Social Governance
- Energy transition in southern Africa
- The use of cleaner energy technologies in mines
- Digital mining / simulated mining in the context of the energy transition
- Vanadium and redox batteries
- Platinum Group Elements and their role in clean energy
- Rare Earth Elements in permanent magnets
- Geothermal energy and its potential role in the energy supply of southern Africa
- Repurposing of South Africa's power stations
- Mining and processing challenges associated with clean-energy minerals
- Progress in meeting southern Africa's decarbonisation targets

#### Venue

The five-day short course will be hosted by DSI-NRF CIMERA at the University of Johannesburg, South Africa, from 9th to 13th of October 2023.

The short course is composed of 2½-days lectures and evening events, followed by 2½-days field excursions to mine sites that have implemented renewable sustainable energies and sustainable mining equipment.

**Participants must arrive on Sunday 8th of October in Johannesburg.**

Image: [www.globalnewsart.com](http://www.globalnewsart.com) / Shutterstock.com

**ORGANIZERS:** Society for Geology Applied to Mineral Deposits (SGA); DSI-NRF CIMERA (Centre of Excellence for Integrated Mineral and Energy Resource Analysis); UNESCO; Society of Economic Geologists; IUGS-RFG; Council for Geosciences, South Africa.



### Course structure and social events

- Registration, ice-breaker: Sunday 8 October
- Lectures: Monday 9 – Wednesday 11 October (2½ days)
- Course dinner: Monday 9 October
- Panel discussion: Tuesday 10 October  
Proposed topic: **Renewable Energies versus Fossil Energies.**

### Fieldtrips

- Local Excursion (½ day) Wednesday 11 October
- Field excursion including overnight stay at The Ranch, Polokwane. Thursday 12 – Friday 13 October

### Indicative Fees (€)

(exact fees will be depend on sponsorship)

#### LECTURES:

Students	200 €
Academia/government/parastatal	500 €
Industry	900 €
Online participation	100 €

#### FIELDTRIPS (all inclusive):

Students	200 €
Academia/government/parastatal	400 €
Industry	600 €

### Travel and Accommodation

Many airlines fly directly to Johannesburg. *Uber* is recommended for ground transport.

For fieldtrips, the accommodation, transport and meals are included in the proposed price. Many types of accommodation are available around the University of Johannesburg.

### Visa Requirements

Letters of invitation will be sent to pre-registered delegates on request.

### Number of participants

The lecture sessions can accommodate up to 50 people. The field excursion may be limited to 30 people, depending on site-access requirements.

### Target Audience

Geoscience students and early-career professionals with an interest in mineral deposits and the energy transition are encouraged to attend. There will be ample opportunity for networking with specialists in this field and industry partners. Speakers will include international experts from academia and industry.

### Language

The workshop will be held English.

### Organizing Committee

#### Nicola Wagner

*Director: DSI-NRF CIMERA, University of Johannesburg, South Africa)*

#### Judith Kinnaird

*Co-Director: DSI-NRF CIMERA, University of the Witwatersrand, South Africa*

#### Lizzie Tau

*DSI-NRF CIMERA, University of Johannesburg, South Africa*

#### Marlina Elburg

*University of Johannesburg, South Africa*

#### Russell Bailie

*University of the Western Cape, South Africa*

#### Mimonitu Opuwari

*University of the Western Cape, South Africa*

#### Beate Orberger

*SGA Councilor, UPS, Catura Geoprojects, France*

#### Ismahene Chaouche

*SGA Metallogeny Short Course Co-coordinator, UTHB, Algeria*

#### Filadelphia Mbingeneeko

*Vice-President of SGA sub-Saharan Africa, Geological Survey, Windhoek, Namibia*

#### Edmund Nickless

*IUGS Chair: Resourcing Future Generations Initiative, United Kingdom*

#### Malick Faye

*SGA Student Chapter, Senegal*

#### Doro Niang

*SGA Student Chapter, Senegal*

#### Samba Rokhaya

*Geological Survey of Senegal*



### Registration

Pre-registration and grant application forms can be downloaded from the SGA website.

<https://e-sga.org>

**Deadline for pre-registration and grant applications is the 31st of May 2023.**

Registration link: [https://docs.google.com/forms/d/12oxeHKNfz8s\\_d3LOcJuACfHgKA5ujYGWOdPMza79XqI/viewform?edit\\_requested=true](https://docs.google.com/forms/d/12oxeHKNfz8s_d3LOcJuACfHgKA5ujYGWOdPMza79XqI/viewform?edit_requested=true)

### Contact information

General information:

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