

WEBSITE: SEVERAL PRE- AND POST- WORKSHOPS ARE SCHEDULED TO TAKE PLACE BEFORE AND AFTER CAG29 INDOOR MEETING AND INCLUDES:

WS01 - Enabling African geodata 25 Sept 2023

Convener: Prof Mike Stephenson, Deep-time Digital Earth (DDE) Director Europe/Middle East, mikepalyno@me.com

Africa has enormous natural advantages for the energy transition and for developing modern low carbon industrial systems:

1. New gas discoveries across the continent to power low carbon power and industry, and a hydrogen economy
2. Onshore and offshore basins for gas storage, low temperature geothermal, and carbon capture and storage
3. Key minerals for battery and other low carbon technologies: e.g. cobalt, tantalum and fluorspar

These natural advantages can transform resource wealth into sustainable economic development that benefits all Africans, while also conserving and enhancing the natural environment in line with the sustainable development goals.

As demand rises for energy and critical raw materials, African nations are aiming at inward investment to develop local industry from mining to manufacturing to high value service industries, but also to get the best out of the resources that they choose to export.

The flow of accessible geodata is key to local and inward foreign investment. The International Union of Geological Sciences founded in 1961, with 121 national members, is one of the World's largest scientific organizations. Through its first big science program – Deep-time Digital Earth – it aims to work with African partners to develop better accessibility to key African geodata and develop artificial intelligence techniques to get more out of data.

This workshop sponsored by DDE, GSAf and IUGS, and with invited attendees from UNESCO and the World Bank, will explore ways that Deep-time Digital Earth will work with African institutions to get data ready for Africa geoscientists and institutions including geological surveys, universities and government regulatory and planning departments, so that they can strategically develop their geological assets.

WS02- Workshop on UNESCO Global Geoparks in Africa

Conveners: Ms. Kombada Mhopjeni, Dr. Ozlem Adiyaman Lopes, Dr. Enrique Diaz Martinez & Prof. Asfawossen Asrat

Workshop on UNESCO Global Geoparks in Africa

Date: 21 September 2023

Venue: Geological Survey of Namibia. Windhoek , Namibia

Objectives of the workshop

The capacity-building workshop intends to bring together emerging geopark initiatives in Africa and other interested partners:

- To learn the fundamentals of UNESCO Global Geoparks concept: what are they? What makes them special? In what way are they different from other site designations? How are they created?
- To raise awareness of the importance of geological heritage and the need to connect it with natural heritage, as well as cultural tangible and intangible heritage.
- To encourage the governments and the related organizations to protect and conserve their most relevant geoheritage via national programmes and to develop UNESCO Geopark projects in their country.
- To assure that the UNESCO Geopark concept is well understood at governmental and academic level, in order to support community driven growing initiatives and provide a necessary new sustainable economic development to local populations.
- To identify and discuss the strengths and weaknesses, as well as potential opportunities and threats posed by the current situation in Africa for UNESCO Global Geoparks. What is the potential and challenges for current initiative in Africa and discussions on how to alleviate such challenges?

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Organizers

- UNESCO International Geoscience and Geoparks Programme Secretariat and the UNESCO Windhoek office
- PanAfgeo-2 workpackage WP-D (Geoheritage) delivery team
- Geological Survey of Namibia

Target audiences

- National and regional experts (geological surveys, academics, nature conservation experts, protected area managers...)
- Promoters or leaders of ideas or projects of UNESCO Global Geoparks in Africa and geopark initiatives in Africa

UNESCO Global Geoparks workshop concept and organization

The workshop will last 4 days (including 3 days field trips) from 9:00 am to 6:30 pm

The workshop will end with a field trip to the proposed Gondwana geopark project area.

The workshop language will be exclusively in English.

WS03- Potential for the ASSM sector in Africa

Conveners: John Tychsen

In many resource-rich developing countries, artisanal and small-scale mining (ASSM) provides a livelihood for millions of people, representing a major source of economic development. While it is estimated that more than 40 million people work in the sector globally, it remains largely unregulated, resulting in limited information on production, revenues, employment and operations.

The overall objective of the workshop is:

- Provide the participants an improved impression of the ASSM sector in Afrika.
- Provide an opportunity for the participants to discuss ways for managing and assisting the ASSM operators.
- Discuss the role of a governmental entities (geological surveys and mines department) in the ASSM sector.
- Provide some regional perspectives of the challenges in the ASSM sector.

The performance targets of the workshop are that after completing of the workshop the participants will be able to:

- Apply the key terms of mineral exploration in the ASSM sector.
- Recognize key legislation and issues.
- Describe the socioeconomics of ASSM in the country.
- Recognize key occupational health safety issues related to ASSM.
- Recognize key environmental issues related to ASSM.
- Weigh different mining options for how best to develop a mineral deposit.
- Identify and apply the different types of methods involved in mineral processing in the ASSM sector.
- Identify and describe the obligation of the national geological survey and the national ministry of mines.
- Assess the issues related to business planning for ASSM.

WS04 - Students & Early Career earth scientists: challenges and opportunities in the ever-evolving global society

Conveners: Josephine Uushona, Halleluya Ekandjo, Mbili Tsiningayamwe, Moses Tuutaleni Angombe, Josia Tulongeni Shilunga, Giesberta Shaanika, Gideon K. Haingura,

The Student & Early Career Geoscientist workshop composed of keynote speakers and panel discussion. The workshop will focus on the challenges, opportunities and innovative ways young earth scientists can take advantage of the current times in science and technology. The talks and discussions will provide early career earth scientists with the inspiration to enter any job sector in Namibia and beyond to make a difference and contribute towards sustainable economies, whilst at the same time building a personally satisfying career. Panel Discussion Points includes:

Unconventional Geoscience Careers

- Challenges graduates encounter at the start of their career
- Translating your earth science into art – we can invite a local artist to do a mini exhibition for inspiration.
- How to use the power of social media to market your research and personal branding- we can invite a local social media influence to help translate how different media platforms can be used to achieve this.
- Geoscience Entrepreneurship

Scientific Publication (Turning MSc thesis into peer review paper)

- Boost your scientific publication, GSN communication Author guidelines unpacked- how they can turn honours or MSc thesis into a peer review paper.

Future of young earth scientists

- Early career geoscientists contribution to AI, Climate Change, Petroleum,
- Opportunities in the industries (Green hydrogen, Financial Institution)

WS05- Geological Remote Sensing; Data, Methods and Techniques

Conveners: Bruno Portela & Andries Botha, Department of Applied Earth Sciences, ITC Faculty, University of Twente

The workshop will be led by applied and research earth scientists with decades of experience in various Geological remote sensing techniques. The workshop will introduce the theory and data used in applying Geological remote sensing, with a practical step-by-step exercise utilising multivariate remotely sensed datasets. The workshop exercises aim to leverage freely-available software and data where possible. This is an ideal opportunity to gain working knowledge and experience with Geological remote sensing data, software, and methods.

WS06 - Challenges, Opportunities and Applications of Geochemical Mapping in Africa

Conveners: Prof Rob Bowell, SRK Consulting & Queens University, Kingston, Ontario, Canada; Iorsue Akaahar, Nigerian Geological Survey Agency and Philadelphia Mbingeneeko, Geological Survey of Namibia.

Africa hosts significant amount of earth's mineral reserves, however, the greater part of the continent remains underexplored. The challenges are mainly attributable to the lack of analytical capacity and the adoption of standardized Geochemical Mapping protocols to effectively and efficiently run geochemical mapping programmes in Africa. Hence, a two-day preconference workshop will be held, with the title "Challenges, Opportunities and Applications of Geochemical Mapping in Africa". The first day (Saturday, 23rd September 2023) will be devoted to classroom lectures on Global, Continental and National Scale Geochemical Mapping, and applications in environmental sciences and human health. The second day (Sunday, 24th September 2023) will focus on demonstrating field methods of sampling stream sediment, residual soil, overbank and floodplain sediment, and rock, using applied geochemical methods described in the International Union of Geological Sciences Manual of Standard Methods for Establishing the Global Geochemical Reference Network.

The workshop will be an opportunity for Geological Surveys in Africa to present the current status, challenges, opportunities and applications of the Geochemical Mapping Projects. Additionally, this workshop is for geoscience graduates, geoscience researchers and professional applied geochemists, who wish to enhance their understanding on standardized geochemical mapping techniques.

WS05- The future for Women in Geoscience.

Convener: TBA

WS05- Total Professors Associe-TPA & SC03

Convener: TBA