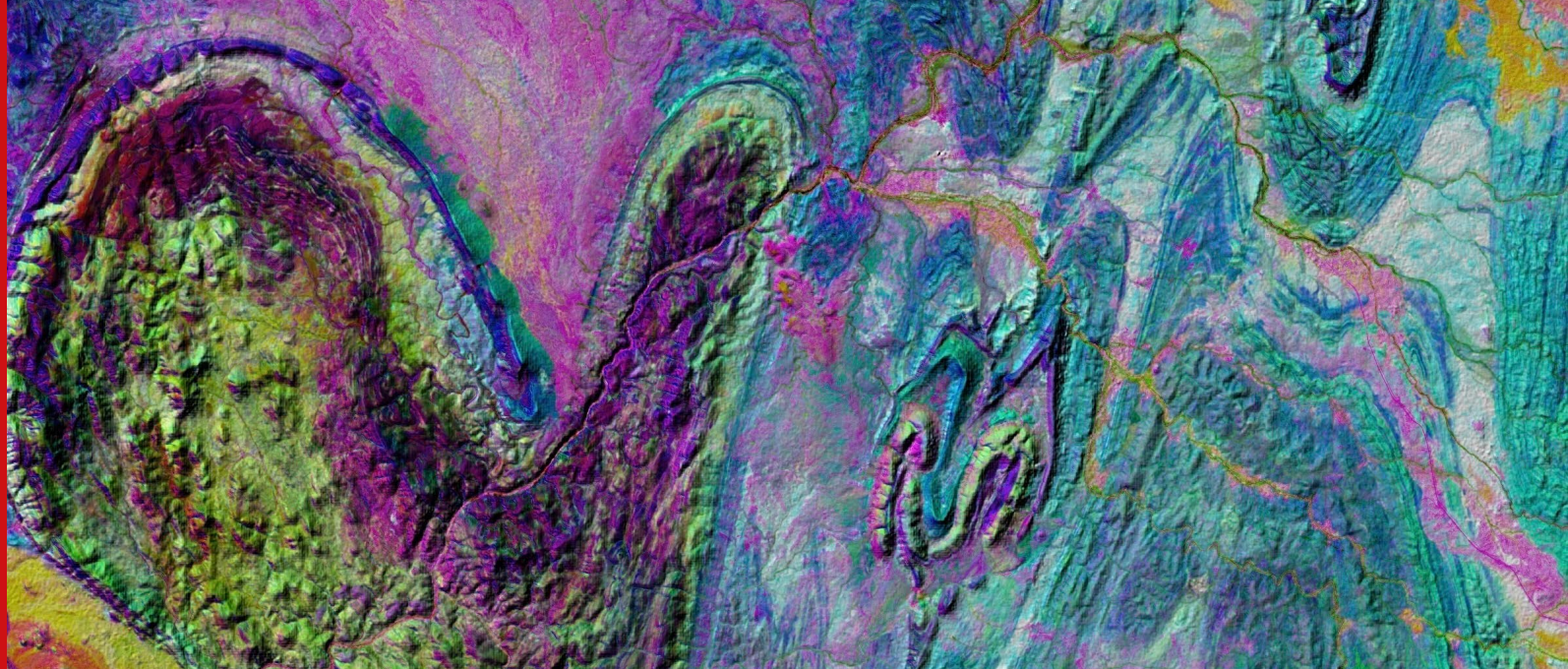


CIMERA

DSTI-NRF CIMERA
Centre of Excellence for
Integrated Mineral and Energy
Resource Analysis



DSTI-NRF Centre of Excellence for Integrated Mineral and Energy Resource Analysis (CIMERA) is hosted by the Department of Geology at the University of Johannesburg (UJ), and co-hosted by the School of Geosciences at the University of the Witwatersrand (Wits).

DSTI-NRF CIMERA was launched in 2014 under the Centre of Excellence (CoE) initiative of the National Research Foundation (NRF), a division of the South African Department of Science, Technology and Innovation (DSTI). CoEs are strategic national assets that concentrate research excellence, capacity and resources in order to enhance the pursuit of research excellence and capacity development.

Who is DSTI-NRF CIMERA?

We are an academic research unit offering scholarship and research training through collaborative partnerships. Our mission is to provide equal opportunities to geoscientist postgraduate students and academic staff at South African universities, enabling relevant geoscience research and to broaden skill sets. Outcomes driven research is built on partnerships and teamwork in the pursuit of academic excellence, geoscientific inquiry, and impactful geoscience research.



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DSTI-NRF CIMERA PARTNERSHIPS

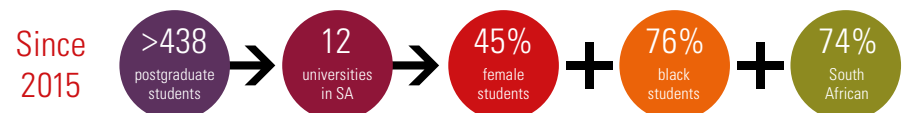
DSTI-NRF CIMERA has established a diverse, collaborative, and enabling environment for advanced research in mineral and energy resources. The Centre brings together leading academic, postdoctoral and postgraduate geoscientists from across South African universities (Cape Town, Fort Hare, Free State, Johannesburg, Limpopo, Pretoria, Rhodes, Stellenbosch, KwaZulu-Natal, Venda, Western Cape, and Wits). International collaborations extend to the Helmholtz Institute Freiberg for Resource Technology in Germany, University of Patras in Greece, and Akita University in Japan. These partnerships are further strengthened through Memoranda of Understanding with the Council for Geoscience, Anglo American, and other stakeholders. CIMERA continues to explore new strategic partnerships to further enhance its research impact.

OUR RESEARCH EXPERTISE

Through our extensive consortium network of geoscientists, DSTI-NRF CIMERA has expertise in many facets of economic geology and geology for society. This includes iron and manganese ore bodies; kimberlite and diamonds; early earth mineral systems; paleogeographic continental reconstructions (paleomagnetic studies); the Bushveld Complex and other large igneous provinces; Witwatersrand and other gold deposits; base and critical metals (including rare earth elements (REE)); base metal deposits; coal, shale gas, oil; advanced analytical equipment; environmental geosciences; as well as geotourism and geoscience for society. Involvement in the ICDP projects enables the expansion of the understanding of the early Earth's evolution. Completed large co-funded research projects include the Karoo Research Initiative project (KARIN), the Agouron GOE biomarker drilling project, the CHARPHITE (ERA-MIN) project, the South African Au and PGM Resource Atlas (SAMERDI), the EU-funded H2020 AISiCal project, the ICDP Base Moodies project, and more recently the ICDP BVDP. Multi-university research is ongoing for the Kunene Complex project in collaboration with Anglo American.

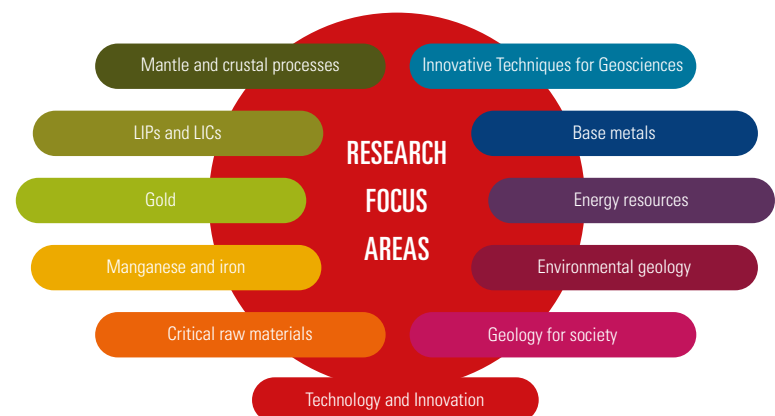
Photo credit: (Top) René Booysen, Helmholtz-Zentrum Dresden-Rossendorf e.V. (Right) Prof Nic Beukes, N'Chwaning Mines, Northern Cape Province, South Africa.

CAPACITY DEVELOPMENT



RESEARCH FOCUS AREAS

Purpose: to guide research direction and provide a forum for networking and discussions within a commodity thrust.



Geometallurgy, geophysics (seismics), geochemistry and small-scale mining opportunities form part of many of the above focus areas, as does analytical development, 4IR and big data processing, and geological training.

The SARChI Chair in Geometallurgy (Prof Fanus Viljoen, UJ) and the Community of Practice (CoP) in Oil and Gas (Prof Ray Durrheim, Wits) work in close collaboration with the CoE.

Research is guided by the Steering Committee and the Scientific Advisory Committee, with input from collaborating partners, industry, parastatals, Government, and international organisations.

AREAS OF IMPACT

1. Resource Genesis; 2. Exploration; 3. Mineral Economics; 4. Geochemistry and Geophysics; 5. Advanced Analysis; 6. Mining; 7. Geometallurgy; 8. Sustainable Development; 9. 4IR and Big Data Mining; 10. Geoheritage and Geotourism; 11. Technology Advancements.





science, technology & innovation

Department:
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RHODES UNIVERSITY
Where leaders learn



Stellenbosch
UNIVERSITY
UNIVERSITEIT



University of Venda



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WESTERN CAPE



DSTI-NRF CIMERA RELEVANCE AND SERVICE TO SOCIETY



Geoscience research is imperative in the South African (and global) domain. Modern societies and technology are underpinned by geological raw materials. DSTI-NRF CIMERA provides an enabling platform in the expansion of a scientifically competent population. Outreach projects in groundwater exploration, geoheritage, and geoscience education are supported. Advanced analytical facilities hosted by South African universities are supported, enabling access to world-class facilities. Collaborators participate in and organise local and international conferences, workshops, seminars, and colloquia. Our annual DSTI-NRF CIMERA Research Colloquium is a highlight in our academic calendar.

DSTI-NRF CIMERA ANNUAL RESEARCH COLLOQUIUM

The DSTI-NRF CIMERA Annual Research Colloquium is our flagship event and enables postgraduate, postdoctoral research fellows, and research associates to present their research findings. This is an opportunity for networking, and for industry to gain a window-shop idea of the research within our CoE. All DSTI-NRF CIMERA supported students and academics completing their research projects present interim results in the form of a poster or peer-reviewed abstracts. The research abstracts are available on www.cimera.co.za.



UJ Graphic Design Studio



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STRUCTURE AND CONTACT

Directorate

Prof NJ Wagner (UJ) Director
Prof SJ Webb (Wits) Co-Director

CoE Manager

Ms Busisiwe Maphalala (UJ)

Administrative Staff

Ms Viwe Koti
Administrative Assistant (UJ)
Ms Zintle Daraza
Administrative Assistant (Wits)

Marketing and Events Coordinator

Ms Itumeleng Modisha (UJ)

Contact Details

Department of Geology
C1 Lab (3rd Floor)
Auckland Park Kingsway Campus
University of Johannesburg
cimera@uj.ac.za
+27 11 559 4728
www.cimera.co.za