

Joint media release, Tuesday 17 October 2023
Stellenbosch University and African Rainbow Minerals

Official launch of the African Rainbow Minerals Geometallurgy Research Chair at Stellenbosch University

Worldwide and in southern Africa the minerals sector is looking towards the emerging field of geometallurgy as a means towards unlocking value and enhancing sustainability practice during ore extraction.

Geometallurgy is the integration of geological, mineralogical and metallurgical data in three-dimensional space to create a spatially aware processing model. Moreover, by incorporating economic, marketing, and ESG (Environmental, Societal and Governance) considerations, these models seek to predict and maximise value addition during the mine life cycle.

It is against this background that Stellenbosch University (SU) has recently partnered with African Rainbow Minerals (ARM) to establish the ARM Geometallurgy Research Chair. The objective of the chair is to advance knowledge and build capacity in this important field, thereby enhancing the resilience and environmental sensitivity of the local minerals industry.

Due to the interdisciplinary nature of the research chair, it has been established as a shared position between Dr Bjorn von der Heyden from the Department of Earth Sciences and Dr Margreth Tadie from the Department of Chemical Engineering. Dr Von der Heyden's field of specialisation is economic geology, geometallurgy and geochemistry, and that of Dr Tadie includes mineral processing, geometallurgy, and process optimisation and modelling. Research capacity has been increased with the appointment of two post-doctoral research fellows, Dr Cedric Djeutchou and Evelyn Manjengwa. The current student cohort comprises seven master's students, who are all tackling various aspects of geometallurgy.

According to Dr Von der Heyden the students are performing well: "Based on their ongoing research in the Northern Cape and Gauteng, they promise to make an impactful contribution to the science of how iron and manganese ores are formed, how it can be extracted at maximum efficiency and value realisation, and at minimal environmental impact. We are proud of their achievements to date, and grateful to ARM for sponsoring their studies".

At the formal signing of the Memorandum of Agreement on 17 October 2023, Dr Tadie said they are excited about what the Chair sets out to achieve: "This partnership with ARM is both visionary and timeous. We are moving towards a world of big data, increasingly complex ore bodies, increased societal awareness, and highly competitive business practice. The minerals sector is responding to this by acknowledging the importance of geometallurgy. We look forward contributing both knowledge and human capital development in this space".

The Chief Executive of ARM Ferrous, André Joubert, stated: "We are excited and honoured that ARM is part of this momentous collaboration with Stellenbosch University to inaugurate the ARM Geometallurgy Research Chair. Through this collaboration we aim to advance knowledge and strengthen the environmental sustainability of our industry. The importance of research cannot be overstated in the endeavour of exploring fresh opportunities and innovating within the field of geometallurgy. We remain committed to operating safely, responsibly, and efficiently, while nurturing relationships with our communities and other stakeholders".

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Gesamentlike mediavystelling, Dinsdag 17 Oktober 2023

Universiteit Stellenbosch en African Rainbow Minerals

**Amptelike bekendstelling van die African Rainbow Minerals
Navorsingsleerstoel in Geometallurgie aan die Universiteit
Stellenbosch**

Wêreldwyd en in Suider-Afrika kyk die mineralesektor na die ontluikende veld van geometallurgie as 'n manier om waarde te ontsluit en volhoubaarheidspraktyke tydens erstsontginning te verbeter.

Geometallurgie is die integrasie van geologiese, mineralogiese en metallurgiese data op driedimensionele vlak ten einde 'n ruimte-bewuste verwerkingsmodel te skep. Verder, deur ekonomiese, bemarkings-, en OMB (omgewings-, maatskaplike en bestuurs-) oorwegings te inkorporeer, poog hierdie modelle om waardetoevoeging gedurende die mynlewensiklus te voorspel en te maksimeer.

Dit is teen hierdie agtergrond dat die Universiteit Stellenbosch (US) onlangs 'n vennootskap met African Rainbow Minerals (ARM) aangegaan het om die ARM Navorsingsleerstoel in Geometallurgie te vestig. Die doel van die navorsingsleerstoel is om kennis te bevorder en kapasiteit op hierdie belangrike gebied te bou, en sodoende die veerkragtigheid en omgewingssensitiwiteit van die plaaslike mineralebedryf te verbeter.

Gegewe die interdisiplinêre aard van die navorsingsleerstoel, is dit gevestig as 'n gedeelde pos tussen Dr Bjorn von der Heyden van die Departement Aardwetenskappe en Dr Margreth Tadie van die Departement Chemiese Ingenieurswese. Dr Von der Heyden se spesialisingsveld is ekonomiese geologie, geometallurgie en geochemie, en dié van Dr Tadie sluit mineraalverwerking, geometallurgie en prosesoptimering en -modellering in. Navorsingskapasiteit is vergroot met die aanstelling van twee nadoktorale navorsingsgenote, Dr Cedric Djeutchou en Evelyn Manjengwa. Die huidige studentekohort bestaan uit sewe meestersgraadstudente wat almal verskeie aspekte van geometallurgie bestudeer.

Volgens Dr Von der Heyden presteer die studente goed: "Op grond van hulle deurlopende navorsing in die Noord-Kaap en Gauteng, beloof hul om 'n impakvolle bydrae te lewer tot die wetenskap van hoe yster- en mangaanerts gevorm word, hoe dit ontgin kan word met maksimum doeltreffendheid en waardeverwesening, en met minimale omgewingsimpak. Ons is trots op wat hul tot op hede bereik het en dankbaar dat ARM hul studies borg.

By die formele ondertekening van die Memorandum van Ooreenkoms op 17 Oktober 2023, het Dr Tadie gesê hulle is opgewonde oor wat die navorsingsleerstoel ten doel het: "Hierdie vennootskap met ARM is terselfdertyd visionêr en tydig. Ons beweeg na 'n wêreld met groot datastelle, toenemend komplekse ertsliggame, groeiende sosiale bewussyn, en hoogs mededingende besigheidspraktyke. Die mineralesektor reageer hierop deur erkenning te gee aan die belangrikheid van geometallurgie. Ons sien daarna uit om beide kennis, sowel as mensekapitaalontwikkeling in hierdie ruimte by te dra".

Die Uitvoerende Hoof van ARM Ferrous, André Joubert, het verklaar: "Ons is opgewonde en voel geëerd dat ARM deel is van hierdie belangrike samewerking

met die Universiteit Stellenbosch met die instelling van die ARM Navorsingsleerstoel in Geometallurgie. Hierdie onderneming dui op ons verbintenis om kennis uit te brei en die omgewingsvolhoubaarheid van ons bedryf te versterk. Die belangrikheid van navorsing in ons strewende om nuwe geleenthede en vernuwing in die veld van geometallurgie te verken, kan nie genoeg beklemtoon word nie. Ons bly toegewyd daartoe om veilig, verantwoordelik en doeltreffend te funksioneer, terwyl ons verhoudings met ons gemeenskappe en ander belanghebbendes koester".

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