

## A brief visit for collaborative research with the GeoEco Lab at North-West University

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Left: Participants of the p-XRF Workshop; Right: Workshop participants testing the pXRF unit at the [A.P. Goossens Herbarium](#) at North-West University.



With herbarium staff of The National Herbarium (SANBI, Pretoria) who helped us with our efforts to scan herbarium specimens for metal concentrations.



Staff and students who attended my seminar at the University of Witwatersrand.



Left: With NWU student, Jonathan Breytenbach, and Ian Norte, during a birding adventure to Limpopo; Right: With members of BirdLife Wesvaal during an early morning birding outing in Potchefstroom.

I was delighted to hear that I received a [Fulbright Specialist Program](#) Grant to visit my long-term collaborator and friend, Prof. Stefan Siebert, for six weeks this past winter. This visit follows my 11-month [Fulbright US Scholar Award](#) in 2022–2023, where I co-taught a new module, Geoecology, conducted collaborative research with Prof. Siebert and members of his Lab, and gave presentations across 10 universities and research institutes in southern Africa, including Namibia and Madagascar. During this most recent visit, I participated in a 3-day workshop to introduce portable X-ray fluorescence (pXRF) technology to discover native, metal-hyperaccumulating plants, via the scanning of herbarium specimens, for mine restoration purposes. We had [previously tested](#) suitability of this relatively novel technology and now have plans to utilize it for discovering physiologically distinct species for basic research and the use in green technologies, such as phytoremediation and phytomining. The workshop was attended by geologists, botanists, and microbiologists from South Africa, Zimbabwe, Sri Lanka, India, Brazil, USA and Australia. I gave the keynote address and helped draft outlines for resulting publications and grant applications. Along with two MSc students, Charl Clarke and Hancko Ostmann, and Prof. Siebert, I visited the [HGWJ Schweickerdt Herbarium](#) at the University of Pretoria, [CE Moss Herbarium](#) at the University of Witwatersrand, and [The National Herbarium](#), South Africa National Biodiversity Institute (SANBI) in Pretoria to scan over 500 specimens to assess their metal-accumulation thresholds. I gave four presentations on my research on the ecology of serpentine-associated plants at NWU, including a guest lecture in Geoecology, the module I co-created and co-taught at NWU during my time as a Fulbright US Scholar in 2023, and a [UESM Talk](#). I also gave an invited presentation on my ongoing research in geoecology at the School of Animal, Plant & Environmental Sciences, University of the Witwatersrand and was invited by the University of Pretoria to give a presentation during their Centenary Celebration of the [HGWJ Schweickerdt Herbarium](#) in early 2025. In addition to sharing my research, I was able to promote Fulbright opportunities for South African [students](#) and [professionals](#) via two workshops held at the Unit for Environmental Studies and Management (UESM). These well-attended workshops were fun to conduct and I hope graduate students and professors of the UESM are successful in securing grants to visit the United States for educational and cultural exchange in the near future. During my free time, I engaged in my passion for wildlife photography, with Jonathan Breytenbach, an undergraduate student at the UESM, as well as members of BirdLife Wesvaal, a bird club based in Potchefstroom, capturing 165 bird species, including 38 lifers, and sharing my photos and travel highlights daily with my global network of students, colleagues and friends following my travels on [Facebook](#). As always, I thoroughly enjoyed my time at NWU and Potchefstroom, my home away from home. I look forward to my next visit.