

David Bell, who occupies the DST/NRF SARCHI Chair in Earth Systems Science at NMMU, grew up on the northern coastal outskirts of Cape Town, becoming familiar with the mountains and wetlands of the southwest Cape and the desert country to the north. He majored in Chemistry, Zoology and Geology at the University of Cape Town, completing his B.Sc. (Hons) in Geology in 1981. After two years as a research mineralogist in diamond exploration, he migrated to the USA for postgraduate study, earning a Ph.D. in Geochemistry from the California Institute of Technology (Caltech) in 1993 for work on the mineralogical storage mechanisms of water in the deep Earth. Thereafter followed research positions at the Carnegie Institution for Science's Geophysical Laboratory, the University of Cape Town, and the Massachusetts Institute of Technology (MIT) focusing on the geochemical and geophysical structure and evolution of the mantle beneath continents and deep carbon storage. This research continued for a further 12 years at Arizona State University (where he retains a visiting appointment), expanding to the application of light element and isotope geochemistry (H, Li, B, O, F) to Earth's mantle, Mars, and the early Solar system.

His research program at AEON-ESSRI (NMMU) covers four broad themes: (1) surface and deep planetary geochemistry of light volatile elements, (2) structure and evolution of the continental lithosphere of southern Africa (3) deep time environmental evolution and stewardship of the Cape mountain belt, Karoo basin and adjacent coastal regions of southern Africa, (4) natural philosophy of complex systems. An environmental geochemistry laboratory with an emphasis on water and light stable isotope analysis is under construction. With colleagues in AEON-ESSRI he explores trans-disciplinary approaches that embrace social sciences and humanities perspectives on complex Earth stewardship problems.

