



Shale Gas Research Program and Opportunities at the Nelson Mandela Metropolitan University

As part of a 5-year transdisciplinary research program, with support from the Eastern Cape Government, the Earth Stewardship Science Research Institute (AEON-ESSRI) of the Nelson Mandela Metropolitan University (NMMU) will establish a natural base-line framework across the Karoo before the start of hydraulic fracturing to exploit potential shale gas. AEON-ESSRI studies will cover a wide range of interactive projects, including, but not limited to: geo-, soil- and eco-systems, seismicity, water quality, gas sources and leakage detection, shallow and deep geophysics, drilling and (geo-)engineering, socio-economic, legal and rural engagement issues, risk analyses, numerical modelling and data-base management. Background information on the project may be found on www.karooshalegas.org

The research program involves deployment of state-of-the-art instrumentation for scientific monitoring, analysis and decision making:

- methane gas/isotope detection
- groundwater/water-well chemistry
- hydrology networks
- ecosystem changes
- geochronology, geology
- micro-seismicity and ambient noise
- subsurface geophysics (magnetic, gravity and magneto-telluric surveying)
- citizen science employment in rural areas and municipalities

The program leaders, including international collaborators, are looking for a number of graduates with at least an Honours degree in the fields of chemistry, geo- and life sciences, computing, (applied) maths, economics and development studies. The graduate students are expected to build an interactive team that will also collectively design programs of rural capacity building and development of citizen science. Interested students should send a CV and a short motivation letter by March 15 to Tessa.Penrith@nmmu.ac.za

The project is also seeking a professional hydro-geologist with an advanced science degree and a minimum of 3-year experience in hydrogeology applied to ground water. Knowledge of the Karoo and its geology will be an advantage. Interested individuals should send a CV, a letter of motivation, and the names and contact details of three references before March 15 to

moctar.doucoure@nmmu.ac.za

