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Changing of the guard at the Department of Science and Technology

On being promoted to Minister of Home Affairs last month, Naledi Pandor has by common consensus served a very successful three-and-a-half-year term as Minister of Science and Technology. No one could realistically have hoped for a more enthusiastic incumbent. The first ANC minister to hold the post, Pandor embraced the cause of developing the country's science and technology base with a great deal of energy and inspiration, and there is little doubt that this cause has benefitted from at last having a champion in cabinet from within the ranks of the ruling party. The high point of her tenure was the awarding of the bid for the Square Kilometre Array (SKA) in May 2012 – an event which most likely would not have materialised but for her exceptional efforts in supporting it.

But the irony is that, despite the glamour of the SKA, researchers in South Africa are more despondent than they have been at any other time in the last quarter-century. The reason for this despondency is that Pandor's tenure at the department has coincided with a period of ill-conceived policy changes at the National Research Foundation (NRF), which, within the context of a recessionary climate, have left the great majority of university-based researchers (incumbents of Research Chairs and members of Centres of Excellence excepted) starved of funds with which to train graduate students. The extent of the problem has been documented for a single science faculty (at the University of Cape Town) in this journal (<http://dx.doi.org/10.4102/sajs.v108i3/4.1161>).

The ministry passes into the safe hands of Derek Hanekom, who has been Deputy Minister in the Department of Science and Technology (DST) since 2004. Hanekom is not only deeply passionate about science, but having served under two ministers as deputy, he has the advantage of an institutional memory of the department's projects over the past 8 years. One of the most laudable – and ambitious – was the PhD project launched in 2004, which aimed to increase the number of PhDs graduating from South African universities to 6000 by 2018. After a good start – the number of PhD students supported by the NRF rose by 61% (from 1360 to 2186) in 2005, and the number of doctoral graduates rose commensurately to 1274 in 2007 – this programme began to falter when the NRF began to phase out its Focus Area Programmes in 2008 (McKune, *S Afr J Sci* 105:83–84), and graduate numbers fell to 1159 in 2010.

In 2011, the number of graduates rose significantly for the first time in 4 years, by 36% to 1576 doctoral graduates, after the Department made two relatively small injections of funds, administered by the NRF: R22 million to increase master's and doctoral graduation rates and improve the qualifications of academics and researchers, and R53 million to raise bursary levels (including those for doctoral studies) by a third. Despite the reduced number of full-time doctoral candidates being supported by the foundation (<http://dx.doi.org/10.4102/sajs.v106i11/12.501>), these strategically targeted interventions appear to have paid disproportionately high dividends.

Minister Hanekom would do well to consider similar small-scale interventions alongside his plans for additional Centres of Excellence and his department's 10-year innovation plan focusing on the 'grand challenge areas' – Bio-economy, Global Change, Space Science, Energy, and Human and Social Sciences. The successes and failures in terms of meeting these challenges have been documented in this journal over the past 4 years: some, such as the SKA, have been spectacularly successful, while others, for example, the Pebble Bed Modular Reactor (admittedly a project administered not by the DST but by the Department of Trade and Industry), have been disgraceful failures (<http://dx.doi.org/10.4102/sajs.v106i5/6.287>). Imagine if the R10 billion wasted on this poorly managed project had been distributed amongst the country's productive researchers? The lesson from the SKA bid is surely how well South African researchers and technologists can perform if they are adequately funded and well managed.

Finally, Hanekom needs urgently to liaise with his counterpart at the Department of Higher Education and Training, Blade Nzimande, about the issue of differentiation in the country's universities. Nzimande placed this issue on the agenda soon after assuming office in 2009 (<http://dx.doi.org/10.4102/sajs.v106i7/8.368>), yet it is clear from the recent round of Research Chair allocations that the principle of concentrating scarce research resources in a relatively few institutions with the requisite infrastructure, is no longer being followed (<http://dx.doi.org/10.4102/sajs.v108i3/4.1183>). Surely two ministries whose objectives are so closely interlinked cannot continue to ignore each other?