

REGIONAL EXPENSIVE EQUIPMENT PROGRAMME (REEP)
2009 ANNUAL REPORT - REVIEW OF WESTERN CAPE EQUIPMENT
RESEARCH INFRASTRUCTURE SUPPORT PROGRAMME (RISP)
APPLICATIONS
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Prepared for the Cape Higher Education Consortium (CHEC)

In 2005 the Western Cape REEP Committee was reconstituted in order to re-affirm the concept of mutual support and collaboration between the local universities in the region, and to co-ordinate and be supportive of one another's equipment requests. During 2009 one meeting was held.

REEP was instrumental in the NRF National Equipment Programme (NEP) and National Nanotechnology Equipment Programme (NNEP) application process. REEP had been requested to achieve the following in terms of the NEP and NNEP application process in 2009, and also ongoing for 2010:

- consensus on an institutional application format that is more or less consistent across institutions, to allow for more effective evaluation of applications;
- agreement on time lines for NEP application evaluation and for the prioritisation of applications within institutions, regardless of the NEP time-frames for 2010 (which remain highly unpredictable); and
- agreement on meeting dates, venue and administrative servicing for subsequent REEP meetings. The purpose of these meetings would include the consideration of each institution's short-listed applications well ahead of the NRF deadline.

One of the ongoing difficulties faced by the REEP committee is the recognition of the disparity in capability and equipment infrastructure in the higher education institutions of the Western Cape, which follow from the historical background and the legacy of apartheid. UCT and Stellenbosch University have become the dominant research institutions, with the concomitant equipment to facilitate this. They have, in general, continued to make major and increasing contributions to the research arenas both nationally and internationally. Other institutions, in particular UWC and CPUT, have been much less resourced with equipment for research (as well as teaching), and have only more recently been making significant contributions in the research arena. It is the belief of the REEP Committee that **both** these activities and capabilities should be encouraged and supported. On the one hand it is wholly appropriate that previously disadvantaged institutions, such as UWC and CPUT, should strive to acquire fully equipped laboratory facilities to engender and foster research, some of which can be collaborative in nature. There should also be a strong directive for transformation.

On the other hand, where well-established good research is already being undertaken with high productivity of Master's and Doctoral students, as well as scientific publications and patents, such research should, in our opinion, not be jeopardised, but

be specifically continued, especially where **replacement** equipment to maintain an excellent research capability is required. In 2009, despite the late NRF call for equipment, and the short time the REEP committee had to consider the applications, the REEP process went well, with full representation and participation from each of the member institutions. The universities submitted their allowed quota (of 5 or 6) applications (depending on SRIP inclusion or not), and each application enjoyed the full support of the Western Cape REEP Committee (see table below).

A special point to highlight here, which is indicative of the collaborative nature of the REEP process in the Western Cape, is that one of the UCT items requested (by Prof Candy Lang) for an electron microscope TEM hot stage (costing nearly R1.0m) is intended to be located at UWC because of the excellent TEM electron microscopy facilities at UWC. There is also the possibility of the plasma cleaner (for the TEM), which is also a UCT request, being located part-time at UWC. This is surely indicative of the level of collaboration and mutual support, which are the cornerstones of the REEP initiative, and of benefit to all researchers in the region, and not just a select few at one institution.

In addition, further evidence of the REEP collegiality is that of the agreement to rotate the hosting and chairing of the REEP meetings. Over the last five years these have been conducted under the auspices of UCT (although meetings themselves have been held at UWC and Stellenbosch), with UCT providing the administrative and infrastructural support efficiently and timeously for the REEP process; and Prof Robert Tait fulfilling the function as the REEP Chairperson. At the most recent REEP meeting held on 7 December 2009, it was agreed that the hosting and chairing should operate on a 2-yearly rotation basis, and for 2010 and 2011, UWC has agreed to host the REEP process and provide the required administrative and infrastructural support. Prof Ramesh Baruthram, Deputy Vice-Chancellor at UWC, will convene REEP and take over the role of Chairperson. The present Chair is delighted to hand over this responsibility.

2009 REEP APPLICATIONS

APPLICANT(S)	INSTITUTION	EQUIPMENT	RISP PROGRAMME	UPGRADE / NEW	TOTAL COST IN RAND	REQUEST FROM NRF
Prof SG Burton	CPUT	Liquid Chromatography Mass Spectroscopy (LC-MS) System	SRIP (farmer to pharma)	NEW	4,500,000	4,500,000
Prof C Harris	UCT	X-Ray Fluorescence Spectrometer	NEP	Replacement	3,550,000	2,366,667
Dr D Lang	UCT	2-Photon Laser Module	NEP	NEW	2,200,000	600,000
Prof J Sealy	UCT	Stable Light Isotope Mass Spectrometer	NEP	Replacement	2,700,000	1,800,000
Prof CI Lang	UCT	1) Plasma Cleaner for TEM specimens 2) Heating specimen Holder for TEM	NNEP	NEW	1,346,579	1,346,579
Prof R Kuppuswamy	UCT	Nanoform 250 Ultra Grind - free form grinding and milling	NNEP	NEW	2,150,000	2,100,000
Prof A Buffler	UCT	Fast Neutron Detectors and Electronics	SRIP (Fast Neutron Science)	NEW	3,800,000	3,800,000
Dr LF Petrik	UWC	(Quantachrome Instruments) Autosorb-1C	NNEP	NEW	960,000	960,000
Prof D Knoesen	UWC	Dual Beam Scanning Electron Microscope	NNEP	UPGRADE	9,373,650	7,000,000
Prof WD Schubert	UWC	X-ray Generator and CCD-Detection System for Macromolecular Structural Analysis.	NEP	NEW	5,896,300	3,936,300
Prof RR Henkel	UWC	Freeze Dryer	NEP/SRIP (farmer to pharma)	NEW	827,743	827,743
Prof DJG Rees	UWC	Illumina Genome Analyzer and Genotyping Systems	NEP	NEW	11,227,195	7,000,000
Prof FF Bauer	SU	Vibrational Spectroscopy Facility for Chemical Imaging	NEP	NEW	9,119,303	6,109,933
Prof L Klumperman	SU	Field Emission Scanning Electron Microscope	NNEP	NEW	6,929,797	6,929,797

APPLICANT(S)	INSTITUTION	EQUIPMENT	RISP PROGRAMME	UPGRADE / NEW	TOTAL COST IN RAND	REQUEST FROM NRF
Prof TS Seifert	SU	Industrial Computer Tomograph (micro CT)	NEP	NEW	7,874,900	5,249,933
Prof PD van Helden	SU	LTO Orbitrap XL ETD	NEP	NEW	7,200,000	4,800,000
Prof LJ Barbour	SU	Single-Crystal Diffractometer	NNEP	NEW	6,609,720	6,609,720
Dr NP Makunga	SU	Plant Tissue Culture Equipment, Plant Growth Chambers and Bioreactors	SRIP	NEW	5,220,000	5,220,000