

Water Use and Waste Management: Research project portfolio for 2007/08

THRUST 3: WASTEWATER AND EFFLUENT TREATMENT AND REUSE TECHNOLOGY		
Title (New projects indicated by *)	Contractor	Term
Programme 1: Biological sewage treatment processes		
To investigate the performance and kinetics of biological nitrogen and phosphorus removal with ultrafiltration membranes for solid-liquid separation	University Cape Town	01/04/04 – 31/03/07
IAPS algal biomass and treated effluent utilisation as a key strategy in sustainable and low cost sanitation	Rhodes University	01/04/05 – 31/03/07
Materials mass balances modelling of wastewater treatment systems	University Cape Town	01/04/05 – 30/06/07
A status quo assessment of the effectiveness of wastewater pond systems for containment and treatment of wastewaters, and the development of practical operating guidelines	Emanti management (Pty) Ltd	01/04/06 – 31/03/08
Evaluation of a South African clinoptilolite for ammonia-nitrogen removal from secondary sewage effluent for pollution control	University of Pretoria/Department of Chemical Engineering	01/04/06 – 31/03/08
Design manual for small sewage treatment works	Waterscience cc	01/04/06 – 31/03/08
Support to EU - EUROMBRA project: Development of an anaerobic membrane bioreactor	University of Natal/Pollution Research Group	01/04/06 – 31/03/08
Programme 2: Sludge characterisation, treatment, utilisation and disposal		
Influence of sludge conditioners on the soil conditioning properties of sewage sludge	University Pretoria	01/04/04 – 31/03/07
The development of Volume 3 (Land and Ocean Disposal), Volume 4 (Use in Commercial Products) and Volume 5 (Incineration) of the 2 nd edn. of the <i>South African Wastewater Sludge Guidelines</i>	Zitholele Consulting	01/04/05 – 31/03/08
*Guidelines for the utilisation and disposal of water treatment residues	Golder Associates Africa	01/04/07 – 31/03/09
*Sustainable and beneficial use of biosolids land application strategies: Quantifying nitrogen and phosphorus plant-soil mass balances	University of Pretoria	01/04/07 – 31/03/10
Programme 3: Treatment and recovery of organics from agro-industrial processing		
Development of a hybrid immersed-membrane bioreactor	University Stellenbosch	01/04/02 – 31/03/07
Investigation and commercialisation of production of a cocktail of hydrolytic enzymes from anaerobic sulphidogenic bioreactor fed with sulphate reducing bacteria and municipal sewage sludge for the treatment of biological and industrial wastewater	Rhodes University	01/04/04 – 31/12/07
The removal of reactive dyes from dye liquor for the reuse of salt, water and energy	Clothing and Textile Environmental Linkage Centre	01/04/04 – 31/03/07
Industrial wastewater remediation via wet air oxidation using immobilised transition metal catalysts	University Western Cape	01/04/04 – 31/03/07
*'Health for Purpose' in wetlands treating waste streams	University of Cape Town	01/04/07 – 31/03/11
*Beneficiation of agri-industry effluents	University of Cape Town	01/04/07 – 31/03/10
Programme 4: Treatment and recovery of inorganics (including sulphate, metals) in industrial and mining effluents		
Investigation and development of the biotechnology of sulphur biofilms in the beneficiation and treatment of wastewaters	Rhodes University	01/04/04 – 31/08/07
Development of sustainable low-cost management for saline sewage and saline mine drainage wastewaters using integrated algal ponding systems	Rhodes University	01/04/05 – 31/03/07
Continued evaluation of the integrated managed passive water treatment system (IMPI), long-term monitoring of VCC passive treatment plant and three dimensional characterisation of decommissioned sulphate reducing units	Pulles, Howard and de Lange Inc	01/01/05 – 31/03/07
*Novel technology for the recovery of water and solid salts from hypersaline brines: Eutectic freeze crystallization	University of Cape Town	01/04/07 – 31/03/10
*Cellulose fermentation products as energy source for biological sulphate reduction	CSIR	01/04/07 – 31/03/08
*Reactor design for metal precipitation in mine water treatment	University of Cape Town	01/04/07 – 31/03/08
Programme 5: Training in wastewater treatment plant operation		
*Field guide for inspections at waterworks	Golder & Associates	01/04/07 – 31/03/08
Programme 6: Biotechnological co-treatment of saline and sewage wastewaters		
Exploitation and further development of beneficial applications of biotechnological processes for co-treating saline and sewage wastewaters	Rhodes University (Environmental Biotechnology Research Unit)	01/04/05 – 31/03/07
Programme 7: Sewerage reticulation		
A first-order national audit of sewerage reticulation issues	IUI	01/04/06 – 31/03/07
*Storm water ingress in South African sewer systems: Understanding the problem and dealing with it	Duzi-uMngeni Conservation Trust	01/04/07 – 31/03/09
Programme 8: Development of guidelines for stormwater management strategies within integrated urban water management		
Development of guidelines for stormwater management strategies within integrated urban water management	SRK	01/04/06 – 31/03/07
Programme 9: Energy from waste		
Energy from waste	University of Cape Town	01/04/07 – 31/03/08