

## Conference to look at future role of groundwater



The call for papers is open for the next Biennial Conference of the Groundwater Division of the Geological Society of South Africa.

The conference, which is being organised in association with the International Association of Hydrogeologists, will be held in Pretoria from 19 to 21 September with the theme 'Groundwater: Our Source of Security in an Uncertain Future.'

Financial, economic and environmental changes and uncertainty require innovative approaches to hydrogeological science and groundwater management. Delivery of services and environmental

sustainability in the years to come will make ever-greater demands on groundwater. This challenges hydrogeologists and fellow professionals to find new ways to progress, often with limited resources.

Papers have been invited on the following topics: climate change and drought, dealing with uncertainty, water quality, merging science and policy, mapping and data, water and energy, and from pollution to remediation and protection, among others. The closing date for abstracts is 30 November. For more information, Email: [confplan@iafrica.com](mailto:confplan@iafrica.com) or Visit: [www.gwd.org.za](http://www.gwd.org.za)

## Environmental department lays down the law

The Department of Environmental Affairs has embarked on a six-month campaign to inspect compliance to environmental legislation.

The Environmental Management Inspectorate, commonly referred to as the Green Scorpions, is carrying out the compliance assessments across the country. It is expected that up to 40 environmental authorisations and 20 waste licenses will be inspected during the campaign.

According to the department, the main objectives of the campaign are to monitor adherence to conditions stipulated in environmental management plans and waste licenses as well as to improve the general status of compliance within the regulated community through taking proper enforcement actions in the event of non-compliance.

## Will urine become a commercial fertiliser?

The Bill and Melinda Gates Foundation has provided a grant of US\$3-million to support a joint project by the Swiss Federal Institute of Aquatic Science & Technology (Eawag) and the eThekweni Water and Sanitation Utility in South Africa to develop technical solutions for urine processing for nutrient recovery.

The separate collection of urine provides innovative opportunities for the improvement of sanitation and the recycling of nitrogen, phosphorus and potassium. The project, to be undertaken over the next four years, will study the logistics of collection and transport of urine from toilets to processing facilities. Scientists will also examine ways in which sanitation can be paid for by the production and sale



of urine-based fertiliser, thus enabling a cheap, efficient and widely-accepted sanitation system to be set up.

There is a growing awareness that in many parts of the world an alternative is needed for the conventional sewer-based sanitation and central wastewater treatment system. At the same time, the global demand for fertiliser is so great that interest in

local sources of nutrients is growing.

Eawag has many years of experience in the research of urine separation, and has done successful preparatory work in Nepal, which demonstrated that urine processed to make the phosphorus-based fertiliser struvite can

help to close regional nutrient cycles and promote awareness of the value of the nutrients contained in urine. "This experience plus the collaboration with an extremely progressive administrative department in Durban were important reasons for developing our project in South Africa," says Kai Udert, the Eawag researcher in charge of the South African project.

## Water diary

### SMALL WASTEWATER TREATMENT SYSTEMS

#### NOVEMBER 23-24

The Second WISA Small Wastewater Treatment Conference will be held at the Regent Hotel, in East London.

Email: [conference@wisa.org.za](mailto:conference@wisa.org.za) or [valerian@wrc.org.za](mailto:valerian@wrc.org.za)

### MINE CLOSURE

#### NOVEMBER 23-26

The Fifth International Conference on Mine Closure will be held in Santiago, Chile with the theme 'Responsible Closure: Living up to Communities' and Stakeholders' Expectations'.

Email: [mc@mineclosure2010.com](mailto:mc@mineclosure2010.com) or Visit: [www.mineclosure2010.com](http://www.mineclosure2010.com)

### HYDROLOGY

#### DECEMBER 6-10

The School of Bioresources Engineering and Environmental Hydrology at the University of KwaZulu-Natal is hosting a course on Advanced Modelling of Water Flow and Solute Transport in the Vadose Zone: HYDRUS at Skukuza. Enquiries: [Beeh@ukzn.ac.za](mailto:Beeh@ukzn.ac.za)

### DESALINATION

#### FEBRUARY 9-11

The Australian Water Association 4th Membranes and Desalination Specialty Conference will take place at Crown Plaza, Surfers Paradise.

Enquiries: [www.awa.asn.au](http://www.awa.asn.au)

### INDUSTRIAL WATER USE

#### FEBRUARY 15-17

The Water in the Southern African Minerals Industry Conference will be held at the Ingwenyama Conference & Sport Resort, White River. The event is hosted by the Southern African Institute for Mining and Metallurgy (SAIMM) and will seek to explore and define water and mining-related challenges within the southern African region, propose solutions and possible funding methodologies. Enquiries:

Raymond van der Berg (Conference Coordinator); Tel: (011) 834-1273; Fax: (011) 833-8156; Email: [Raymond@saimm.co.za](mailto:Raymond@saimm.co.za); Visit: [www.saimm.co.za](http://www.saimm.co.za)

## R&D spend up, but SA still off target



Despite spending R2,4-billion more on research and development (R&D) last year, South Africa is still failing to meet the government target of spending 1% of GDP on R&D.

Presenting her department's National Survey of Research and Experimental Development report for 2008/09, Minister of Science & Technology Naledi Pandor revealed that the country's R&D spend dropped slightly to 0,92% of GDP. This was despite R&D expenditure having increased 2,2% in real terms between 2007 and 2008, from R18,6-billion to R21-billion.

According to Pandor, a key concern is that the country's number of researchers is decreasing. She said the findings of the survey indicated that the country

needed to focus specifically on boosting the skills level and increasing the number of post-graduate students – which she pointed out currently stood at only 34% of all graduates.

Part of the country's challenge was that research funding was dispersed according to sectors, which meant there was not a central point of administrative control, leaving research areas largely dependent on the focus of a particular department.

The private sector accounted for 58% of spending on research with 24,4% of research spending being in the field of engineering sciences. The remainder of research spending is concentrated in natural sciences (20,6%), medical and health sciences (14,6%), information and communication technologies (13,1%), social sciences and humanities (12,5%) and applied sciences and technology (9,1%). Agricultural sciences only made up 5,5% of total R&D spend.

On a positive note, a survey by the Human Sciences Research Council did reveal that South Africa has one of the highest proportions of women researchers in the world. The survey indicated that women represent nearly 40% of researchers in South Africa, compared to 13% in countries such as Japan and 33% in Norway.

## UKZN student grabs award

Masters Chemical Engineering student, Joseph Bwapwa, has received the Chemical Technology Specialisation Award in the Water Category for his paper dealing with wastewater research.

The award was handed over to the student from the University of KwaZulu-Natal at a special ceremony organised by Crown Publications and the South African Institution of Chemical Engineers earlier this year. Supervised by Dr Katherine Foxon and Prof Chris Buckley, Bwapwa is a key role-player in the Pollution Research Group's sanitation project being conducted in Durban in collaboration with eThekweni Water and Sanitation, the Water Research Commission, and the Bremen Overseas Research and Development Association (Borda).

Bwapwa's work focused on the treatment of complex wastewater generated in low-income communities using an ABR or anaerobic baffled reactor (a containerised sewage treatment system). The research team discovered that the ABR removed 80% of the pollutants and solid matter from the treated wastewater and the effluent generated was within the irrigation limits specified by the Department of Water Affairs.

It is reported that the results of the study will go a long way towards assisting the municipality in solving the issue of sewage treatment in informal settlements, as well as helping to contain waterborne diseases.

Source: UKZN

## Polluters must pay, says Minister

South Africans responsible for contaminating the land must pay. So says former Minister of Water & Environmental Affairs Buyelwa Sonjica.

"We have taken the view that the cost of reducing pollution must be shared between people who are responsible for waste, the polluters. We are now saying the policy of the polluter pays will be strictly pursued without fear," the minister said. She was speaking at a waste management conference held earlier this year.

Sonjica also announced that

her department had concluded the Framework for the Remediation of contaminated land. "The coming into effect of the contaminated land section of the Act is imminent. I will soon be able to identify contaminated land and order investigations to determine the extent of contamination as well as the form of remediation required."

There will be a database or register of all contaminated land which will be linked to the Deeds Register to ensure that transfers take into account information relating to the contamination of land parcels.

## International water body honours Stellenbosch dean

Stellenbosch University Dean of Science, Prof Eugene Cloete, has become the first representative from Africa to be included in the new Fellows Programme of the International Water Association (IWA).

Prof Cloete, a microbiologist and inventor of the teabag water filter, is one of 34 newly elected fellows. They include researchers, water resource managers, inventors and academics from countries such as Japan, the USA, Mexico, Germany, Spain and the Netherlands.

According to the IWA, election to IWA Fellow grade one is 'one of the highest honours the association can bestow on an individual'. It recognises unusual and outstanding distinction in the profession and is conferred by the IWA Board of Directors on a person with an extraordinary record of accomplishments that has contributed importantly to the advancement of application of water science and technology and that has brought the realisation of significant value to society.

Among others, Prof Cloete currently serves on the IWA Biofilm Specialist

Group, and is a past Vice-President and Board Member of the association. He is a member of the Coca-Cola World Water expert panel and is Chair of the South African Academy of Science committee on poverty and technology.

He has been dean of the Faculty of Science at Stellenbosch University since 2009, and is the driving force behind the recently established Water Institute there. He was also the founding director of a similar Water Institute at the University of Pretoria. Prof Cloete has promoted 78 MSc students and 25 PhD students at the two universities.

