

# *SANCOLD BI-ANNUAL CONFERENCE*

*4 to 6 November 2009*

## **SUSTAINABLE DEVELOPMENT OF DAMS IN SOUTHERN AFRICA**



### *About the Conference*

The South Africa National Committee on Large Dams (SANCOLD) Conference will be held at the Alpine Heath Resort, Drakensberg, between Wednesday 4 and Friday 6 November 2009.

SANCOLD invites all from Africa and the wider family of ICOLD to participate in the conference which will include technical presentations, a technical visit, an exhibition, pre-conference tour and a full accompanying person's programme in and around the Drakensberg



This is an ECSA Continuing Professional Development (CPD) accredited event. CPD commenced in January 2006 whereby all professional engineering persons are required to obtain 25 credits over a 5 year cycle, with a minimum of 3 credits per year, for renewal of registration with ECSA from 2007. This Conference is a Category 1 activity and offers 3.0 credits. A maximum of 4 credits may be accumulated under this category per year. For more details see [www.ecsa.co.za](http://www.ecsa.co.za)

### **Conference Topics**

Abstract and papers are invited under the following themes:

- Lessons learnt from failures and other incidents
- Remedial works to extend the lives of reservoirs
- Replacement and repair of gates, pipes and valves
- Dam break analysis and emergency planning
- The use of risk assessment techniques
- The use and performance of new materials in dam design and remediation
- The use of novel dam engineering techniques
- Flood management and the effect of climate change
- Research into dam design, construction and performance
- Reservoir sedimentation
- Innovative spillway designs to maximize discharge capacity, freeboard and safety
- Pumped-storage scheme design & renewable energy
- Design & Operation for environmental releases
- Site selection and geotechnical aspects
- Sustainable Tailings Dams
- Dams and resettlement
- Sustainable water resources planning for the future
- Environmental impacts of dams on rivers
- Transboundary water resource considerations in Southern Africa

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# Programme

## Overview

The conference will commence with arrivals in the afternoon/evening of Tuesday 3 November. On Wednesday 4th November there will be presentations by keynote presenters and of technical papers, and the Conference Dinner. After some early presentations the rest of Thursday 5 November will be devoted to a technical visit to the Ingula pumped storage scheme of Eskom currently under construction near Van Reenen. There will be further presentations of technical papers on the morning of Friday 6 November with the Conference concluding in the afternoon.

There will also be an exhibition and accompanying persons activities in and around the Drakensberg area.



## Preliminary Programme

The detailed conference programme can be accessed [here](#)

### Preliminary Programme

<b>Wednesday 4 November 2009</b>	
7:30 to 8:30	Registration;
8:30 to 10:30	Welcome by SANCOLD chairman Keynote speaker 1 Keynote speaker 2
11:00 to 13:00	Technical sessions
13:00 to 14:00	Lunch
14:00 to 16:30	Technical sessions
16:30 to 17:30	Election of new SANCOLD Management Committee
17:30 to 18:00	Management Committee Meeting
19:30	Conference dinner

<b>Thursday 5 November 2009</b>	
8:00 to 10:00	Technical sessions
10:00 to 17h00	Ingula Scheme site visit (upper and lower dams)

<b>Friday 6 November 2009</b>	
8:00 to 13:00	Technical sessions
13:00 to 14:00	Lunch
14:00 to 16:00	Technical sessions



### Important Dates

<b>Call for Abstracts Distribution</b>	<b>23 March 2009</b>
<b>Call for Abstracts Deadline</b>	<b>15 May 2009</b>
<b>Notification to Authors</b>	<b>5 June 2009</b>
<b>Full Paper Deadline</b>	<b>7 August 2009</b>
<b>Final Full Paper to authors for editing</b>	<b>11 September 2009</b>
<b>Final Full Paper Deadline for publishing</b>	<b>2 October 2009</b>

## ***ABSTRACT***

The abstract should indicate the paper title, the author(s) and the text should not exceed 100 words. The format of the abstract is shown in attached file: "SANCOLD Template Abstract".

Please send the abstract by email to [grbasson@sun.ac.za](mailto:grbasson@sun.ac.za)



## ***PRE CONFERENCE TOUR TUESDAY 3 NOVEMBER 2009***

### **Drakensberg Pumped Storage Scheme & Thukela transfer scheme dams**

The optional pre-conference one day tour will include visits to the dams which forms part of the Thukela transfer scheme as well as a visit to the Eskom Drakensberg pumped storage scheme.

Your view on electricity and power generation will be changed forever after spending time at the Drakensberg Visitors Centre. The Drakensberg Pumped Storage Scheme is one of six stations in the Peaking Generation stable and is situated in the magnificent mountains of the northern Drakensberg in KwaZulu-Natal. Throughout the planning and construction phases, protection and rehabilitation of the environment formed an integral part of the project. What makes this station unique, is that apart from the dam wall, lift shaft buildings and transmission lines, all installations are 150 meters underground. Drakensberg's four reversible turbines, situated 50 storeys below ground level, generate 1000MW onto the Eskom grid during peak periods.



### **Technical Site Visits (Thursday 5 November)– Ingula Pumped storage scheme**

Due to the anticipated growth in peak demands, Eskom has commenced the construction of the 1332MW Ingula Pumped Storage Scheme which is scheduled for completion in 2013. The rated generating capacity is 1332MW and the energy storage capacity 21000MWh.

The Ingula pumped storage scheme is located about 23km north-east of Van Reenen, within the little Drakensberg mountain range. The upper reservoir site is located in the Free State and the lower in KwaZulu-Natal. The distance between the upper and lower reservoirs is in the order of 6km and the elevation difference is approximately 470m.

The scheme consists of the following basic components: An upper reservoir, a lower reservoir, an underground power house complex with access tunnels and associated waterways that link the two reservoirs, 4 pump-turbines coupled directly with generator-motors and ancillary works that include building works, roads, transmission lines and temporary and permanent infrastructure

The upper dam is a concrete faced rockfill type with a length of 810m and a maximum height of approximately 41m. The lower dam is a roller compacted concrete structure with a length of 310m and a maximum height of approximately 39m.

The site visit would include the upper and lower dams currently under construction.



## Registration

**Conference registration is now open.**

**In order to register for the conference please complete and return the Registration Form, with payment, by not later than 2 October 2009**

Please note that:

- Prices for attendance are detailed on the registration form
- Payment is required by cheque or by bank transfer; confirmation of registration will be given after payment has been received in full
- Book early to ensure pre-conference tour availability. Places are limited and will be allocated on a first come first served basis
- The registration fee does not include accommodation. Please book your accommodation directly with the Alpine Heath Resort: See "useful links".

If you have any queries regarding registration, please do not hesitate to contact:

**Mrs Lleana du Preez/Marechia Basson**

Tel: +27 21 808 2100/+27 79 4909 210

email: [ldpreez@sun.ac.za](mailto:ldpreez@sun.ac.za); [msb@aspt.co.za](mailto:msb@aspt.co.za)



## **Exhibition**

### **SANCOLD Conference Exhibition - An Opportunity to show the Dam Community what you can do**

The Alpine Heath Resort will be a very popular and attractive venue and the event is expected to attract more than 150 delegates from South Africa, Africa and the rest of the world.

The exhibition will be near the main Conference lecture hall, near where the delegates will take morning and afternoon refreshments. Early booking of exhibition space is recommended as the number of spaces could be restricted.

If you wish to discuss the matter further please do not hesitate to contact Gerrit Basson by e-mail at [grbasson@sun.ac.za](mailto:grbasson@sun.ac.za)



## ***Contact Us***

Prof [Gerrit Basson \(grbasson@sun.ac.za\)](mailto:grbasson@sun.ac.za) – Papers & exhibition

[Lleana du Preez \(ldpreez@sun.ac.za\)](mailto:ldpreez@sun.ac.za)- Any other matters

Or Marechia Basson ([msb@aspt.co.za](mailto:msb@aspt.co.za))



## Venue & Accommodation

### Venue

SANCOLD Biennial Conference will be held at the Alpine Heath Resort in the Drakensberg. Considered to be one of Southern Africa's premier conference and holiday venues, Alpine Heath Resort allows you to relax in the comfort of an exclusive mountain village nestled in the midst of the Northern Drakensberg. The resort offers superb chalet accommodation, fine dining, an abundance of indoor and outdoor activities and the finest state-of-the-art conference facilities in Southern Africa. Alpine Heath invites you to surround yourself with the splendour of crystal-clear streams and mountain-fresh air, while experiencing the luxury and serenity of our resort complex.

At Alpine Heath, each of the 100 luxurious chalets is equipped with a telephone, cellular reception and satellite TV, and offers all the privacy you could ask for.

The three-bedroom chalets comfortably sleep six in a master bedroom which is en-suite and two double rooms each fitted with twin beds. The second bathroom also has the convenience of both a bath and shower. Situated midway between Durban and Johannesburg, Alpine Heath offers a tar road right to the hotel front door and incorporates an excellent network of internal roads.

Other accommodation is available in the area and further detail will be provided in due course.

### **JOHANNESBURG TO ALPINE HEATH [340km - 3.5 hours]**

- Travel to Harrismith on the N3 Jhb - Dbn
- Take the N5 towards Bethlehem for 5km (exit 29)
- Turn left to Phuthaditjaba (8km)
- Turn left onto R74 in the direction of Bergville (After Harrismith)
- Travel past Sterkfontein Dam and down Oliviershoek Pass (35km)
- As the pass levels out turn right following the sign for Northern Berg Resort
  - After about 3km – just after “tower of pizza” turn right following the Alpine Heath directional signs

### **DURBAN TO ALPINE HEATH [270km - 3 hours]**

- Take the N3 Durban - Johannesburg
- Beyond Escourt, 6km after the Shell Ultra City exit the N3 taking the R74 in the direction of Winterton and Northern Berg
- Travel through Winterton (21km) via Bergville (20km) in the direction of Harrismith
- 35km beyond Bergville turn left following the sign for Northern Berg
  - After about 3km – just after “tower of pizza” turn right following the Alpine Heath directional signs



## *Useful Links*

The conference is being held at Alpine Heath Resort in the Drakensberg dedicated conference centre. Details of the facilities can be found at [www.alpineheath.co.za](http://www.alpineheath.co.za)

- **For Google Map** – see here

## **ACCOMPANYING PERSON PROGRAMME**

Accompanying person activities could be arranged directly with the hotel. See things to do below. Accompanying person registration includes only the conference dinner and the conference technical tour.

### ***THINGS TO DO – Around Alpine Heath***

As Beautiful as the Drakensberg is, there are of course some places that are really special and stick out further than the rest. The mountains are what bring many of our guests to the Berg. People want to get as close as they can to these fantastic sculptures of God. The only way that you can reach closeness to these mountains and summits is by foot on hikes, and in some cases even by horse. The hikes range from 6 hours to 3 days summit tours which can be arranged by a variety of companies as well as challenged by one self.

Realizing the risks involved when climbing to these peaks, always try to get others involved in these tours from safety point of view.

Below is a list of summits which can be reached by foot:

- the Amphitheatre
- Mweni
- Cathedral Peak
- Monks Cowl / Nkosana
- Injasuthi
- Giants Castle
- Mkhomazi
- Mzimkhulu

The details of these hikes can be checked up and references retrieved from the Leisure Desk with the "Best walks of the Drakensberg" Book.

The road to the Central Berg is a twisty path filled with mielie farms and tribal areas. Reaching Bergville you will find the bare necessities for your holiday and the same for Winterton. So the bigger shopper would have to travel to Harrismith ( $\pm$  60 km) or Ladysmith ( $\pm$  100 km).

Below is a list of excursion products we at Alpine Heath would recommend:

- All Out Adventures (Outdoor Adventure Sports)
- Amphitheatre Backpackers (Avid hikers and Abseiling)
- Aperture Café and HD Honey Product (Shopping / Site Tours)
- Ardmore Ceramic Studio (Shopping / Site Tours)
- Bell Park Dam (Mountain Biking / Hikes / Water Sports)
- Bergville (Shopping / Information Centre)
- Bingelela Quad Biking (Out Door Adventure Sport)
- Cathedral Peak Country Club (Average Golfer)
- Cathedral Peak Hotel (Helicopter Tours)
- Champagne Sports Golf Resort (Avid Golfer)
- Didima rock Art Centre (Hikers / Site Tours)

- Drangons Cave Farm Store (Shopping / Arts and Crafts)
- Drakensberg Boys Choir School (Site Tours / Shows)
- Drakensberg Sun Qualf Course (Average Qualf)
- Falcons Ridge (Site Tours / Shows)
- Four Rivers Adventure Centre ( Out Door Adventure Sports)
- Hlalanathi Berg Resort Club (Average Golfer)
- Khotsa Horse trails
- Kwazulu Weavers and Waffle Hut (Shopping / Site Tours)
- Ladysmith (Shopping / Information Centre)
- Meadowsweet Herb Farm (Shopping / Site Tours)
- Mike's Pass (4 x 4 Vehicle)
- Monk's Cowl KZN Wildlife (Avid Hikers)
- Monk's Cowl Country Club (Average Golfer)
- Montusi Horse Riding
- Oliphant's Pass Look out Point (Site Tours)
- Reg Stroh's Studio (Shopping / Site Tours)
- Royal Natal National Park (Avid Hikers)
- Rugged Glen Horse Riding
- Sengama Horse Trails
- Sani Pass (Avid Hikers / Quad Biking / 4x4 Tours)
- Spioenkop Battlefields and Monument (Site Tours)
- Spioenkop Dam (Water Sports)
- Spioenkop Game Park (Site Tours / Self Drive Tours)
- Sterkfontein Dam look Out Point (Site Tours)
- The Cow Shed (Shopping)
- Thokozisa Information Centre (Shopping / Information Centre)
- Tuva Power Station (Site Tours)
- Valley Bakery (Shopping)
- Winterton Museum (Site Tours)
- Winterton (Shopping)
- Witsiehoek / Royal National Chain Ladders (Avid Hikers)

## **REGISTRATION FORM – SANCOLD Conference 2009**

Kindly complete this registration form and fax it, together with a letterhead of your company to fax number +27-21 4130447 or mail the form to: The Secretary, Institute for Water and Environmental Engineering, Department of Civil Engineering, University of Stellenbosch, SANCOLD Conference 2009 Course, Private Bag X1, MATIELAND, 7602, SOUTH AFRICA. Or by email to: [msb@aspt.co.za](mailto:msb@aspt.co.za)

On receipt of the completed registration form, an invoice will be faxed or emailed to participants within 3 working days. Payment can be made electronically (details will be provided on the invoice) or by cheque, to be made payable to University of Stellenbosch.

### **CLOSING DATE FOR REGISTRATION AND PAYMENT: 2 October 2009**

<b>Title</b>		<b>Surname</b>		<b>Name</b>	
<b>Company</b>				<b>Accomp person:</b>	
	<b>VAT registration number:</b>		<b>Business registration number</b>		
	<b>Postal address:</b>		<b>Street address:</b>		
<b>Tel</b>	( )		<b>Fax</b>	( )	
<b>Email</b>			<b>Conference fee (3 days)*:</b>		<b>R</b>
<b>Special dietary requests</b>			<b>Pre-Conference Tour (1 day)**:</b>		<b>R</b>
<b>Name/email of person regarding payment</b>			<b>Accompanying person***:</b>		<b>R</b>

\*FEES: Delegates: R7000-00 for 3.0 days (Includes teas, lunches, printed abstracts, papers, technical tour & conference dinner); \*Discounted fees: SANCOLD member: R6600; \*Discounted fees: Full time MScEng/MEng or PhD students at SA University: R3500

\*\* Pre-conference tour: visit Drakensberg pumped storage scheme & Thukela transfer scheme dams (full day): R1500; SANCOLD member R1400

\*\*\* Accompanying person fee includes Conference Technical tour and Conference dinner: R1500

Cancellations will be accepted in writing and without penalty, up to 10 working days prior to commencement of the course. Participants cancelling in writing less than 10 working days prior to commencement of the course will be liable for a 50% cancellation fee. Following registration without attendance and without written cancellation, delegates will be held responsible for the full course cost.

**I HAVE READ AND AGREE TO THE CONDITIONS OF REGISTRATION AS STIPULATED ABOVE**

**Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

#### **Enquiries can be directed to:**

Ms L du Preez or  
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University of Stellenbosch  
Tel: +27-21 8082100/0794909210  
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