



SANCOLD

## South African National Committee on Large Dams

Three day short course and symposium

### Course 1.5 days: BASIC PRINCIPLES OF DESIGN, CONSTRUCTION AND EVALUATION OF SMALL TO MEDIUM DAMS, ESPECIALLY EMBANKMENT DAMS

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### Symposium 1.5 days: SPECIALIZED DAM ENGINEERING AND RELATED TOPICS

**Monday 11 to Wednesday 13 October 2010**

**Venue: CSIR conference Centre, Pretoria, SOUTH AFRICA**

**OPTIONAL SITE VISIT TO DE HOOP DAM (full day on 14 October 2010)**

ECSA Continuing Professional Development (CPD) accredited\*  
PRELIMINARY PROGRAMME

11-Oct-10		Monday - Short course (1.5 days)		
		Theme: Basic principles of design, construction and evaluation of smaller dams, especially embankment dams		
Start Time	Duration (min)	Description	Organization	Presenter
07:30		Registration		
08:00	5	Opening	SANCOLD	D Badenhorst
08:05	30	Site selection		
08:35	40	Foundation and materials investigations		
09:15	60	Embankment dam design based on ICOLD Bulletin	BKS	D Badenhorst
10:15	30	Tea		
10:45	30	Dam Type Selection Studies – BWP Case Study	TCTA	T Tente
11:15	30	Bentonite sealing of earth dams		E Roodt
11:45	45	Spillway design (bywash, unlined, hydraulic control, energy dissipation etc.)	US/Aurecon	GR Basson & DI van Wyk
12:30	60	Lunch		
13:30	30	Riprap upstream erosion protection based on the Rock Manual & case studies	US & other	GR Basson & other
14:00	45	Basic instrumentation: Settlement and seepage/leakage monitoring & hydrology	DWA	
14:45	30	Construction and quality control monitoring		
15:15	45	Safety Inspections	Hattingh Anderson Assoc	L Hattingh
12-Oct-10		Tuesday - short course (continued)		
07:30		Late Registration		
08:00	60	Outlet design		
09:00	60	Embankment Dam case studies		
10:00	30	Tea		
10:30	30	Water level recorder instrumentation and flow measurement	DWA	
11:00	30	Requirements of dam safety legislation including differences between old and new regulations.	DWA	J Nortje
11:30	30	Minimum requirements to be eligible to register as an APP and responsibilities of APPs.	DWA	J Nortje
12:00	30	General discussion		
12:30	90	Lunch & Symposium Registration (Lunch for course & symposium delegates)		

Note: \* 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 course is a Category 1 activity and offers 3.0 credits (4 credits with the De Hoop Dam site visit). 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)

#### SCOPE

**a) Short course:** This 1.5 day course on the BASIC PRINCIPLES OF DESIGN, CONSTRUCTION AND EVALUATION OF SMALL TO MEDIUM DAMS, ESPECIALLY EMBANKMENT DAMS has been structured to address design and construction aspects of small to medium sized dams. Presenters are drawn from government, universities, consulting engineering companies and industry. This popular course was last presented in 2008.

**b) Symposium:** Specialized aspects of dam engineering will be presented at a 1.5 day symposium. Papers should be submitted by delegates for the symposium and will be reviewed. The topics for the symposium are listed in the symposium programme.

**c) An optional one day De Hoop Dam site visit** is scheduled on 14 October 2010. The dam is currently under construction by DWA near Steelpoort. The size of the group could be limited for logistical reasons and we encourage you to register early for the tour.

A preliminary programme for the symposium is shown below with topics for which papers are requested:

12 to 13 Oct 2010		Tuesday 12:30 to Wednesday Symposium (1.5 days)	
		<b>Theme: Specialized dam engineering and related topics (open to all and invited papers)</b>	
12:30 to 17:00	Tuesday	<i>Lunch &amp; Symposium Registration</i>	
14:00		Opening: General State of water resources planning in SA	
		<b>Papers are invited on the following topics below</b>	
17.00 to 18.00		<b>SANCOLD AGM</b>	
8:00 to 16:00	Wednesday	Symposium continued; topics below	
		Dam Safety & Lessons learned	
		New approach to design high slimes dams (80 m high)	
		Guidelines for the design of linings of dams for environmental purposes (mines and waste water disposal)	
		Fishways & flow gauging stations	
		Risk assessment	
		Environmental and Social Issues	
		Extreme Flood Hydrology for South Africa	
		Seismicity	
		Modern RCC dam technology	
		RMC dams	
		CFRD dams	
		Development of Renewable Energy – Dam Engineering for Hydropower schemes	
		Dam rehabilitation	
		Instrumentation, Surveillance and inspections	
		Dam raising	
		High capacity outlet works (Design guidelines and Berg River Dam physical and CFD modelling)	
		Foundation grouting: Curtain and/or consolidation	
		Internal drainage systems	
		Dealing with dispersive materials	
		Lining of spillway channels vs potential erosion	
		Outlet towers, screens and access bridge	
		River diversion during construction	
		Materials for outlet pipes	
		RCC case study: De Hoop Dam design	
16:00		Closure	
<b>14-Oct-10</b>		<b>Thursday</b>	
Full Day		Visit De Hoop Dam	DWA

**Important Dates**

- 16 August 2010
- 31 August 2010
- 13 September 2010

- Submit draft papers (Paper format available from organisers)
- Reviewed papers returned
- Submit final papers & Registration deadline



**REGISTRATION FORM – SANCOLD Dam Engineering short course and Symposium  
Oct 2010**

Kindly complete this registration form and fax it to **fax number +27-21 4130447** or mail the form to:  
**The Secretary, Institute for Water and Environmental Engineering (IWESU), Department of Civil Engineering,  
 University of Stellenbosch, Private Bag X1, MATIELAND, 7602, SOUTH AFRICA.** Or by email to:  
**msb@aspt.co.za**

Payment can be made electronically or by cheque, to be made payable to **University of Stellenbosch.**

**CLOSING DATE FOR REGISTRATION AND PAYMENT: 13 Sep 2010**

Title	<input type="text"/>	Surname	<input type="text"/>	Name	<input type="text"/>
Company	<input type="text"/>				
	VAT registration number:		Business registration number		
	Postal address:		Street address:		
Tel	(    )		Fax	(    )	
Email	<input type="text"/>		Course Presenter	Y/N	
Special dietary requests*	<input type="text"/>		Symposium Delegate	Y/N	
Name/Email of person regarding payment	<input type="text"/>		Full Time Student at SA University	Y/N	
			SANCOLD member	Y/N	

Note: \*Extra cost R300/day

**FEES:**

- **Short course R3500-00 for 1.5 days** (Includes tea, lunches, course notes, presentations); (SANCOLD member R3300-00)
- **Symposium R3500-00 for 1.5 days** (Includes tea, lunches, papers, presentations); (SANCOLD member R3300-00)
- **De Hoop Dam visit R1100-00 for 1.0 day** (includes transport and lunch); (SANCOLD member R1000-00)
- Full time MScEng, MEng and PhD students at SA Universities (other than University of Stellenbosch) pay 50% of the above fees.

Indicate your attendance: Short course  Symposium  Site visit

**The fee for late registration after 13 Sep 2010 will be 20 % more than the above fees**

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  
 Inst for Water & Environmental Engineering  
 Dept Civil Engineering,  
 University of Stellenbosch  
 Tel: +27-21 8082100/0794909210  
 Email: [msb@aspt.co.za](mailto:msb@aspt.co.za) or [ldpreez@sun.ac.za](mailto:ldpreez@sun.ac.za)

or

Prof Gerrit Basson  
 Director Inst for Water & Environmental Engineering  
 Dept Civil Engineering,  
 University of Stellenbosch/SANCOLD  
 Tel: +27-21 808 4355  
[grbasson@sun.ac.za](mailto:grbasson@sun.ac.za)

