

Program - Ballroom 1/70

**08:30-10:00 Opening plenary session - Ballroom 1/70**

**10:00-10:30 Coffee break**

**10:30-12:30 Session A**

Theme	<i>Advances in the rehabilitation of dams and appurtenant works to extend their service life including structural improvements to mitigate the effects of alkali aggregate reaction, internal erosion potential, foundation failure</i>		
Facilitator	Dr Robin Charlwood		USA
Facilitator	Prof Mark Alexander		South Africa
Reporter		#N/A	
10:30 Introduction from Facilitator			
10:35	0 Natural Pozzolan Effects on Aggregate A.S.R. Delimitation in Sharyar Dam Project		Iran 376
10:47 George Casagran	Dam Rehabilitation in the presence of AAR – the Matala HEP		Canada 034
10:59 Nour El Houda Dhiab	The RCC Moula Dam: Reinforcement Work and Appropriate Instrumentation to Challenge a Weak Foundation		Tunisia 387
11:11 Alberto Scuero	A Unique Case: New Works at Chambon Dam		Switzerland 275
11:23 SZ Mhlanga	Kariba Dam Rehabilitation Project – Structural Improvements to the Kariba Dam Spillway Upstream Control Facility to Mitigate the Effects of Alkali Aggregate Reaction		Zambia 464
11:35 Lithathane Matete	Mohale Dam Crack Stage 2 Rehabilitation		Lesotho 333
11:47 Tracey Williamson	Talybont Tunnel Pipework Repair following a Pressure Surge Damage Incident		United Kingdom 250
11:59 Rikard Hellgren	Pull Out Tests of 50-years old Rock Bolts		Sweden 236
12:11 Discussion			

**12:30-13:30 Lunch**

**13:30-15:30 Session E**

Theme	<i>Advances in the rehabilitation of dams and appurtenant works to extend their service life including structural improvements to mitigate the effects of alkali aggregate reaction, internal erosion potential, foundation failure</i>		
Facilitator	Mr Danie Badenhorst		South Africa
Facilitator	Mr Frezer Shiferaw		Ethiopia
Reporter		#N/A	
13:30 Introduction from Facilitator			
13:35 Rodney Bridle	Using ICOLD Bulletin 164 to Develop Good Practice Against Internal Erosion in Dams		United Kingdom 110
13:47 Thibaut Mallet	Probability of Failure of an Embankment by Backward Erosion Using the Formulas of Sellmeijer and Hoffmans		France 051
13:59 Charles MacRobert	A Theoretical Framework to Understand the Mechanical Consequences of Internal Erosion		South Africa 340
14:11 Jean-Jacques Fry	Lessons from Geotextile Use in Embankment Dams		France 442
14:23 Minghui Feng	Condensed History and Samples of Water-stop’s Development for CFRDs in China		China, People’s Republic of 122
14:35 Peter Tschernutter	Rehabilitation and Long Time Behaviour of Asphalt Concrete Lined Reservoirs and Dams		Austria 469
14:47 Daniel Puiatti	Impact of Lime Treated Soils Performance on Design of Earthfill Dams and Dikes		France 232
14:59 Ahmed Chraibi	A 70m depth Cutoff Wall to Control Seepage on an Operating Clay Core Dam		Morocco 161
15:11 Discussion			

**15:30-16:00 Coffee break**

**16:00-18:00 Session I**

Theme	<i>Advances in the rehabilitation of dams and appurtenant works to extend their service life including improving spillway capacity and flood hydrology determination</i>		
Facilitator	Dr Jeff Smithers		South Africa
Facilitator	Mr Tente Tente		Lesotho
Reporter		#N/A	
16:00 Introduction from Facilitator			
16:05 Andre Mostert	The Advantages of Performing a Probabilistic Spillway Assessment in an Arid Environment – The Namibia Example		Namibia/South Africa 439
16:17 Hubert Lohr	Generation of Extreme Events for Flood Risk Assessment - Single Events and Continuous Discharge Time Series		Germany 217
16:29 Ignacio Escuder-Bueno	Risk Governance Implementation for a Cascade System of 5 Dams on Drini River, Albania		Spain/Albania 020
16:41 Enrique Cifres	New Methodology for a Robust Estimation of Large Return Period Floods for Design of Large Dam Spillways		Spain 447
16:53 Henriette Anderson	“Smaller” Dam Spillway Rehabilitation		South Africa 389
17:05 Steven Pells	Assessment and Surveillance of Spillway Erosion Risk		Australia 128
17:17 Adam Botha	Practical Lessons Learnt from the Rehabilitation of Spillway Gates at Cahora Bassa Dam		South Africa/Mozambique 049
17:29 James Yang	Re-Commissioning Storfinnforsen’s Bottom Outlet after over 60 years’ idling		Sweden 012
17:41 Discussion			

## Program - Ballroom 2-3

### 08:30-10:00 Opening plenary session - Ballroom 1/70

### 10:00-10:30 Coffee break

#### Session B

Theme

*Social and environmental impacts and mitigation measures*

Facilitator	Ms Kogi Naidoo		South Africa
Facilitator		#N/A	#N/A
Reporter		#N/A	
10:30	Introduction from Facilitator		
10:35	William Foos	Public Safety and Security of Dams are not Mutually Exclusive	USA 188
10:47	Peter Mulvihill	Conflict Management for Existing Water Resource Projects and Dams	New Zealand 349
10:59	Nila Aliefia Fadly	Social Issues and Land Acquisition Mitigation in Construction of Nipah Dam and Gongseng Dam – East Java Indonesia	Indonesia 367
11:11	Tsepang Sekhesa	Resettlement and Livelihood Restoration in the Context of Large Dams: Phase II of the Lesotho Highlands Water Project	Lesotho 261
11:23	Tente Tente	Implementation of the LHWP Phase II - Approach towards Social Matters	Lesotho 223
11:35	Peter Blersch	Managing Ecological Flow Releases from the Berg River Dam in South Africa	South Africa 313
11:47	Sonel Reynolds	De-Commissioning of Hammarsdale Dam by Transforming it from a Contaminated Problem Child into a Sustainable Wetland	South Africa 315
11:59	Yong Gao	Environmental Vulnerability Assessment of Basin Climate Change and its Effects on Adaptive Conservation Countermeasures for Key Fishes involved with Huge Hydropower Station Operation in Yangtze River	China, People's Republic of 003
12:11	Discussion		

### 12:30-13:30

### 13:30-15:30 Session F

Theme

*Advances in the rehabilitation of dams and appurtenant works to extend their service life including improving spillway capacity and flood hydrology determination*

Facilitator	Mr Henry-John Wright		South Africa
Facilitator	Mr Andre Mostert		Namibia
Reporter		#N/A	
13:30	Introduction from Facilitator		
13:35	Jeff Smithers	Design Flood Estimation in South Africa: Challenges and Developments	South Africa 269
13:47	Wally Ramokopa	Rehabilitation of Dams owned by the Department of Water and Sanitation in South Africa	South Africa 319
13:59	Noriaki Hakoishi	Planning and Design of Additional Discharge Facilities in Japan	Japan 032
14:11	Soleyman Emami	Hydraulic Scaled Model Test for the Optimization of Approach Channel Excavation and Approach Flow Conditions of Haraz Morning Glory Spillway	Iran/Switzerland 156
14:23	Miroslav Broucek	Existing Shaft Spillway Enhancement Based on Physical Modelling	Czech Republic 428
14:35	Frank Denys	Investigation into the Structural Behaviour of Piano Key Weirs	South Africa 040
14:47	Johan Lagerlund and Magnus Svensson	Breach Formation in a Fuse Plug, Evaluation of Full Scale Field and Laboratory Tests	Sweden 070
14:59	Capucine Thomas-Lepine	Efficient Spillway Design Reassessment using CFD	Norway 380
15:11	Discussion		

### 15:30-16:00

### 16:00-18:00 Session J

Theme

*Sustainable hydropower development in developing countries*

Facilitator	<i>The state of the art of the tailings dams for their complete lifespan</i>		
Facilitator	Mr Duncan Grant-Stuart		South Africa
Reporter	Mr Bertrand Collet		South Africa
		#N/A	
16:00	Introduction from Facilitator		
16:05	Andries Strauss	Practical Tools for Conducting Tailings Dam Breach Studies	South Africa/Canada 186
16:17	Martin Rust	Prediction of Potential Tailings Storage Facility Inundation Zones	South Africa 197
16:29	Juha Laasonen	Review of Finnish Tailings Dam Safety	Finland 388
16:41	Marie-Therese Van Kessel	Common Practice and Innovations in Tailings Dams using Geosynthetic Tubes	Germany/South Africa 187
16:53	George Annandale	Important Policy Considerations for Hydropower Development in Developing Countries in an Era of Climate Change	USA 008
17:05	Hugh Hawarden	Challenges in Development of Small Hydropower in Africa: A Different Perspective	South Africa 209
17:17	William Hakin	The Rehabilitation of the Mt Coffee Hydropower Project in Liberia	Canada 189
17:29	Anton Schleiss	Analysis of Future Hydropower Development and Operational Scenarios on the Zambezi River Basin	Switzerland 311
17:41	Discussion		

## Program - Ballroom 4

### 08:30-10:00 Opening plenary session - Ballroom 1/70

### 10:00-10:30 Coffee break

### 10:30-12:30 Session C

Theme *Other*

Facilitator	Mr Michael Abebe	Ethiopia	
Facilitator	Dr Quentin Shaw	South Africa	
Reporter			#N/A
10:30	Introduction from Facilitator		
10:35	David Cameron-Ellis	Ambarau Hardfill Dam - Appropriate Dam Technology for Central Africa	South Africa 064
10:47	Michel Lino	Cemented Soil Dams (CSD) - Proposal for Developing Countries	France 277
10:59	Francisco Ortega	Simple RCC Dams for Developing Countries	Spain 341
11:11	Mehmet Harun Askeroglu	Design Aspects of Koyunbaba CFRD Dam Founded on Deep Alluvium	Turkey 450
11:23	Martin Wieland	Criteria for the Selection of Dam Types in Areas of High Seismicity	Switzerland 123
11:35	Vicki-Ann Dimas	Seismotectonic Modelling for Seismic Hazard Assessments in Low-Seismicity Regions of Africa: Western Africa	Australia 242
11:47	Ali Aman	Seismic Vulnerability Analysis of Tendaho Dam in Ethiopia	Ethiopia 288
11:59	Ignacio Escuder-Bueno	Application of Risk Analysis in Membrío Dam (Spain) to Inform Safety Investments	Spain 021
12:11	Discussion		

### 12:30-13:30

### 13:30-15:30 Session G

Theme *Reservoir sedimentation and management*

Facilitator	Dr George Annandale	USA	
Facilitator	Mr Martin Teal	USA	
Reporter			#N/A
13:30	Introduction from Facilitator		
13:35	George Annandale	Sediment Management at Reservoirs and Hydropower Plants: New World Bank Technical Note	USA 007
13:47	Christian Auel	Positive Effects of Reservoir Sedimentation Management on Reservoir Life: Examples from Japan	Japan 039
13:59	Samual Mottram	Run of River Hydro - Latest Innovations in Diversion Dams and Sediment Exclusion	Canada 174
14:11	Morne van Heerden	Design of Run-Of-River Hydropower Schemes to Limit Sediment Diversion	South Africa 104
14:23	Takahiro Koshiba	Development of a Bedload Transport Rate Measuring System in Sediment Bypass Tunnels	Japan 079
14:35	Aris Yhadhianto	Dredging with Reverine Disposal to the Channel Below the Dam for Supporting Sustainable Sedimentation Management of the Selorejo Dam	Indonesia 385
14:47	Yoshihiko Musashi	A Practical Example of Change of Downstream River Bed Environment of Dam Reservoir by Sediment Replenishment	Japan 152
14:59	Bao Zhengfeng	Study and Practice on Sedimentation Reduction of Three Gorges Reservoir towards the Runoff and Sediment Variation of the Upstream Catchment of Yangtze River	China, People's Republic of 037
15:11	Discussion		

### 15:30-16:00

### 16:00-18:00 Session K

Theme *Innovative river basin management including the optimisation of the operation of dams*

Facilitator	Mr Tendani Ndtwani	South Africa	
Facilitator	Mr Gerald de Jager	South Africa	
Reporter			#N/A
16:00	Introduction from Facilitator		
16:05	Manie Maré	Orange Senqu Shared International Basin: Importance of a Common Understanding of Water Resource Modeling Capabilities and Results for Decision Makers involved in the Planning and Operation of the System	South Africa 374
16:17	Siyabonga Sikosana	Drought Management: The Case of Hluhluwe Dam, Kwazulu-Natal, South Africa	South Africa 342
16:29	Xu Tao	Analysis of Multiple-Target Optimized Regulation of the Three Gorges Reservoir under Changed Operating Environment and its Integrated Benefits	China, People's Republic of 009
16:41	Hubert Lohr	Cause-Effect Analysis of River Basin Management Options - Case Study of a Small Dam in Thailand	Germany 218
16:53	Bao Zhengfeng	The Practice and Discussion on the Joint Operation of Cascade Hydropower Plants in the Upstream Catchment of Yangtze River	China, People's Republic of 038
17:05	Vicky Ariyanti	Pranata Wangsa Calendar Usage in Operational of Sermo Reservoir	Indonesia 014
17:17	Iulian Dan Asman	Role of the Dams in the Strategy for Prevention and Reduction of the Destructive Consequences of Floods	Romania 204
17:29	Mostafa Fadaeifard	Technical and Economical Assessment of Large Dams Design Flood Selection in Iran	Iran 434
17:41	Discussion		

## Program - Bill Gallagher

### 08:30-10:00 Opening plenary session - Ballroom 1/70

### 10:00-10:30 Coffee break

### 10:30-12:30 Session D

Theme	<i>Strategies for proper surveillance of dams</i>		
Facilitator	Dr Laurent Mouvet		Switzerland
Facilitator	Mr Louis Hattingh		South Africa
Reporter		#N/A	
10:30	Introduction from Facilitator		
10:35	Manouchehr Hassanzadeh	Effect of Common Cracks on Structural Behaviour of Concrete Dams	Sweden 171
10:47	Clyde Dankers	The Behaviour of a RCC Dam Raised with RCC...10 Years on	South Africa 466
10:59	Nina Humar	High Resolution Distributed Fiber Optic Temperature Measurement of Massive Concrete in Concrete Dams at an Early – Age	Slovenia 382
11:11	Vicci Schoeman	Monitoring the Behavior Changes of an Unreinforced Multi Domed Buttress Dam during Rehabilitation	South Africa 411
11:23	Patrick Bukenya	Concrete Arch Dam Health Monitoring with Consideration of Environmental and Operational Effects	South Africa 298
11:35	Zac Prins	Identifying Behavioural Trends and the Development of Calibrated Finite Element Models for a Double Curvature Arch Dam	South Africa 345
11:47	Odon Human	Notes on the Behaviour of a 65 Year Old Concrete Arch Dam affected by AAR (Based on Visual Observations only)	South Africa 361
11:59	Ilidio Marcos Tembe	Important Building Blocks of a Proper Long Term Surveillance Strategy - the Cahora Bassa Experience	Mozambique 392
12:11	Discussion		

### 12:30-13:30

### 13:30-15:30 Session H

Theme	<i>Strategies for proper surveillance of dams</i>		
Facilitator	Dr Manuel Gomez de Membrillera Ortuño		Spain
Facilitator	Prof Pilate Moyo		South Africa
Reporter		#N/A	
13:30	Introduction from Facilitator		
13:35	Alexandre Simon	Analysis Method for the Monitoring of Pore Water Pressure in Embankment Dams	France 271
13:47	Hiroyuki Sato	External Deformation Monitoring of Five Rockfill Dams in the same Radar Satellite Data	Japan 035
13:59	Arash Chegini	High Embankment Dams Instrumentation	Iran 151
14:11	Zeping Xu	Surveillance of CFRD Built on Deep Alluvium Foundation	China, People's Republic of 164
14:23	Mateja Klun	Application of Response Surface Method in Analysis of Hydraulic Structures	Slovenia 316
14:35	Louis Hattingh	Behaviour Monitoring of Driekoppies Dam – 18 Years on	South Africa 440
14:47	Vicki-Ann Dimas	Improving Seismic Monitoring in the Active East African Rift System for Detailed Seismic Hazard Assessments: A Case Study in Malawi	Australia 243
14:59	Ilidio Thembe	The Use of Bio-Location in the Safety Evaluation of Dams	South Africa 437
15:11	Discussion		

### 15:30-16:00

### 16:00-18:00 Session L

Theme	<i>Strategies for proper surveillance of dams</i>		
Facilitator	<i>Other</i>		
Facilitator	Prof Ignacio Escuder Bueno		Spain
Reporter	Dr Ahmed Chaibi		Morocco
		#N/A	
16:00	Introduction from Facilitator		
16:05	Manuel Enrique Gomez De Membrillera	Implementation of a Dam Monitoring Management System in the Tagus River Basin Authority	Spain 279
16:17	Evgeniy Bellendir	Organization of Surveillance of Dams in Russia	Russia 109
16:29	Adama Nombre	Some Lessons Learn from the Failure of Earthfill Dams in Burkina Faso	Burkina Faso 414
16:41	Johan Von Holdt	Automatic Scour Gates to Keep Small Dams Free of Sediment	South Africa 423
16:53	Minjian Chen	Is the S-Shaped Curve a General Law? An Application to Evaluate the Damage Resulting from Water-Induced Disasters	China 460
17:05	Imo Efiog Ekpo	Safe Dam Construction, Key in Future Dream of Water Industry in Africa	Nigeria 364
17:17	Mauricio Villazon	Analysis of Vulnerability to Climate Change in terms of Water Supply for San Jose Hydroelectric Project (Bolivia)	Bolivia 205
17:29	Andy Hughes	The Use of Leakage Detection Techniques to Reduce Levels of Uncertainty, to Inform Risk Assessment Processes and to Direct Limited Resources	United Kingdom 472
17:41	Discussion		