

ICSE6 final program (August 2012, 23)

Wednesday 29 augustus, 2012 - **9:15** - Room Grand Amphi  
**Plenary lecture 1**

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Chair Person(s): J.-J. Fry

**Developments in scour and erosion**

G. Hoffmans and H. Verheij

Wednesday 29 augustus, 2012 - **10:30** - Room C3

**1.1 Erosion at the Grain scale (1)**

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Chair Person(s): S. Bonelli

- **Experimental Results for the Influence of Turbulence on the Erosion Function of a Porcelain Clay**

O. Bravo De Los Rios, J.-L. Briaud, H.-C. Chen and K.-A. Chang

- **Critical Shear Stress from Varied Methods of Analysis when Determining Erosion Resistance of Cohesive Soils using a Submerged Circular Turbulent Impinging Jet**

D. Cossette, K. Mazurek and C. Rennie

- **Fully Resolved Simulation of erosion of circular particles in Couette flow**

R. Verjus and S. Guillou

- **Insight on how Bed Configuration Affects Properties of Bed Load Motion**

J. Campagnol, A. Radice and F. Ballio

- **Entrainment of coarse particles by energetic flow events: a review of recent developments**

M. Valyrakis, P. Diplas and C. Dancey

- **A Particle-based Model of Flow-Induced Scour**

U. El Shamy, Y. Abdelhamid, P. Krueger and Z. An

- **The effect of compaction and initial water content on soil erosion**

M. Attom

- **Laboratory preparation of clay specimens with low-pressure mixing**

H. Shan, K. Kerenyi, J. Guo, Z. Xie and J.J. Shen

- **An ex-situ scour testing device for characterizing erosion of cohesive soils**

H. Shan, K. Kerenyi, J. Guo, J.J. Shen, A. Wagner and Z. Xie

Wednesday 29 augustus, 2012 - 10:30 - Room C4

## **1.4 Erosion at the geomorphological scale and 2.2 Soil restoration and conservation**

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Chair Person(s): H. Sekiguchi

**- Prediction of Maximum General Scour Depth during a Flood for Intermittent Rivers**

J.-Y. Lu, C.-C. Su, J.-H. Hong and E.-J. Chen

**- Automatic calculation of the historical shoreline changes: examples on three different coastal morphologies**

C. Trmal, F. Pons and F. Sabatier

**- Long-term predictions of coastal morphology changes with dynamic cross-shore migration of sand spits**

Y. Hamada, Y. Tajima, B. Wickramaarachchi, S. Sobue and T. Nukui

**- Study Of The Water And Sediment Yields of Hodna Basin In The Centre Of Algeria, Examination Of Their Impacts**

M. Hasbaia, A. Seddi, A. Bourenane, A. Hedjazi and A. Paquier

**- La lutte contre l'érosion des talus autoroutiers par des méthodes bio-écologiques**

A. Derradji, C. Alfaiz, A. Bouirmane, N. Tlemcani, J. Blidi and M. Tampe

**- Applying New Soil-Tire-Vegetation Method (STV) to Mitigate the Surface Erosion at the High-Gradient Mudstone Slopes**

P.-Y. Chen, D.-H. Lee, J.-H. Wu, Y.-E. Yang and H.-L. Chen

**- Proposals for Future Index Tests for Erosion Control Systems**

J. Olschewski, S. Cantré and F. Saathoff

**- Char Formation Processes and Livelihoods Characteristics of Char Dwellers of Alluvial River in Bangladesh**

M.A. Rahman and M.M. Rahman

Wednesday 29 augustus, 2012 - 10:30 - Room Pradel

## **2.1 Bridge Scour (1)**

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Chair Person(s): B. Melville

**- Scour at Unknown Foundations or What I did on my summer vacation**

C. Avila, M. McIlroy and E. Aramouni

**- Review of Bridge BR-29- L Scour Failure and Applied Rehabilitation and Countermeasure Approaches.**

H. Fayyazi and A. Farghadan

**- Temporal Variation of Local Scour at Bridge Piers with Complex Geometries**

G. Oliveto

**- Experimental investigation of Flow Field around Bridge Pier Hooked-Collar**

S.-C. Chen, H.-C. Chan and T.-Y. Wu

**- Physical and Numerical Modeling of the Turbulent Flow Field Upstream of a Bridge Pier**

N. Apsilidis, A. Khosronejad, P. Diplas, C. Dancy and F. Sotiropoulos

**- Experimental study on the skewed integral bridge by using crushed concrete geobags as scour protection**

S. Akib, A. Jahangirzadeh, L. Hong Wei, S.M. Shirazi and S. Rahman

**- A Description of Erosion Rate Testing Devices and Correlations between Rock Erosion Rate and Cohesion**

R. Crowley, D. Bloomquist and C. Robeck

Wednesday 29 augustus, 2012 - **10:30** - Room Esquillan

**3.1 Filter design and 3.2 Incident case studies and internal erosion mechanisms**

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Chair Person(s): F. Delgado-Ramos

**- Laboratory experiments and the determination of the Constriction Size Distribution of granular filters**

L. Wu, B. Nana Nzouapet, E. Vincens and S. Bernat-Minana

**- Comparison of two methods for measurement of soil constriction size distribution and orientations**

T. Shire, C. O'Sullivan and G. Gaudry

**- A new simple model for the determination of the pore constriction size distribution**

H.D. To, A. Scheuermann and D. Williams

**- Analysis of Internal Stability of Widely Graded Soils Based on Identification of Mobile Grains**

M.R. Salehi Sadaghiani and K.J. Witt

**- Interface stability of granular filter structures under currents**

H. Verheij, G. Hoffmans, K. Dorst and S. Vandesande

**- A Case Study of Ground Cave-in due to Subsurface Erosion in Old Land Fill**

R. Kuwano, Y. Kohata and M. Sato

**- Dam failures by erosion: lessons from ERINOH data bases**

J.-J. Fry, A. Vogel, P. Royet and J.-R. Courivaud

**- Recent dam incidents and failures in Sweden**

I. Ekström

Wednesday 29 augustus, 2012 - 10:30 - Room

**Break and visit of Exhibitors**

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Chair Person(s):

Wednesday 29 augustus, 2012 - 12:40 - Room

**Lunch**

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Chair Person(s):

Wednesday 29 augustus, 2012 - 14:10 - Room C3

**1.1 Erosion at the Grain scale (2) + 1.2 Erosion at continuum scale (1)**

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Chair Person(s): E. Vincens

- **SimSols: A 3D Virtual laboratory for geotechnical applications**

V. Roubtsova, M. Chekired, Y. Ethier and F. Avendano

- **Modeling the Accumulated Damage in Rock Bed during Saltating Abrasion through Particle Flow Simulation**

K.-W. Li, R.-Y. Lo, Y.-W. Pan and J.-J. Liao

- **Micro and macro modeling of internal erosion and scouring with fine particle dynamics**

K. Maeda, D. Muir Wood and A. Kondo

- **Stability of non-cohesive Soils with respect to Internal Erosion**

M.F. Ahlinhan, M. Achmus, S. Hoog and K.E. Wouya

- **Towards a statistical modeling of contact erosion from pore-scale flow measurements in a porous medium over a sand layer**

P. Philippe, R. Beguin and Y.-H. Faure

- **Automatic Extraction and Analysis of Realistic Pore Structures from  $\mu$ CT Data for Pore Space Characterization of Graded Soil**

U. Homberg, D. Baum, S. Prohaska, U. Kalbe and K.J. Witt

- **Erosion/deposition laws of the Gironde mud**

L. Van, H. Schuettrumpf, C. Villaret and D. Pham Van Bang

- **Scour Development in Layered Sediments - A Laboratory Study**

K. Porter, J. Harris and R. Simons

- **Laboratory scouring measurements: lessons learned regarding classic methods and recent or new methods**

P. Jehanno, L. Marcellin and C. Guilbaud

Wednesday 29 augustus, 2012 - 14:10 - Room Pradel

## 2.1 Bridge Scour (2)

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Chair Person(s): C. Avila

- **Use of the patented BridgeWatch® web-based bridge-monitoring solution in the United States**  
J. Scannell, D. Claman, J. Zirkle, A. Doyle and K. Slinger
- **Integrated Wireless Sensing Technology for Surveillance and Monitoring of Bridge Scour**  
P. Michalis, M. Saafi and M. Judd
- **Remote Scour Assessment Using Infrasound**  
O.-D. Taylor, D. Whitlow and M. McKenna
- **A self-informed bridge assessment, maintenance and management tool for bridge monitoring**  
S. Hand, G. Bruton, D. Bekić and E. McKeogh
- **Real-Time Monitoring of Bridge Scour in Clayey Sediments**  
X. Yu and A. Pradhan
- **Development of a Durable Bridge Scour Monitoring System based on Time Domain Reflectometry**  
C.-P. Lin, K. Wang, C.-C. Chung and Y.-W. Weng
- **New Directions in Scour Monitoring**  
B. Hunt, G. Shields and G. Price
- **Scour vulnerability evaluation of pile foundations during floods for national highway bridges**  
J.H. Park, K. Kwak, J.H. Lee and M. Chung

Wednesday 29 augustus, 2012 - 14:10 - Room C4

## 2.4 River management (1)

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Chair Person(s): D. Loudiere

- **Watercourse Harnessing - Bank Erosion and Consolidation**  
D. Alupoae, V. Aşuencei and P. Răileanu
- **Bed Erosion on the River Galet and its impact on Railway Infrastructure - Case Study**  
M. Cheetham
- **Restoration of an Alluvial Mattress using Artificial Armour Layer. Experimental Study on the river Ouvèze**  
A. Andre, A. Malbrunot and B. Couvert
- **Combining Plants, Natural and Artificial Construction Material for an Optimal Bank Protection**  
M. Heibaum
- **Knickpoint Evolution across Anticline Structure: A Case of Uplifted Reach in the Taan River, Taiwan**  
M.-W. Huang, Y.-W. Pan and J.-J. Liao

**- Impact of Growing Islands on the Flood Capacity of Tigris River in Baghdad City**

A. Ali, N. Al-Ansari and S. Knutsson

**- An Air-Bubble Screen Used as a Countermeasure to Reduce Erosion in Open-Channel Bends**

V. Dugué, K. Blanckaert and A. Schleiss

**- Meandering river with vegetated banks**

D. Pham Van Bang, C. Chen, M. Tal, O. Boucher, F. Metivier and A. Limare

**- Effect of Sand Bars on Failure of Bank Protection Work along Large Sand Bed Braided River**

M.M. Rahman, F. Mahmud and M.N. Uddin

Wednesday 29 augustus, 2012 - 14:10 - Room Esquillan

**3.5 Engineering methods and modeling (2)**

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Chair Person(s): P.-Y. Hicher

**- A Simple Method for Estimating the Non-Structural Fines Content of Granular Materials**

M. Ghafghazi and F. Azhari

**- Validation of Sellmeijer's model for backward piping under dikes on multiple sand layers**

V. Van Beek, Q. Yao, M. Van and F. Barends

**- Investigation In Modelling Piping Erosion With a Coupled "Lattice Boltzmann - Discrete Element" Numerical Method**

L. Sibille, F. Lominé and D. Marot

**- A Software Tool to evaluate the Internal Stability of Grain Structures**

T. Etzer, M. Aufleger and P. Muckenthaler

**- The Russian Practice of Assessment of Earth Dam Seepage Strength**

V. Radchenko, I. Belkova and O. Rumyantsev

**- Lime treated soils as an erosion-resistant material for hydraulic earthen structures**

G. Herrier, C. Chevalier, M. Froumentin, O. Cuisinier, S. Bonelli and J.-J. Fry

**- On the Numerical Modelling of the Jet Erosion Test**

F. Mercier, S. Bonelli, F. Anselmet, P. Pinettes, J.-R. Courivaud and J.-J. Fry

**- Numerical Simulation of Submerged Jet Test and Associated Soil Erosion**

K. Weidner, J. Petrie, P. Diplas, S. Nam, M. Gutierrez and M. Ellenberg

Wednesday 29 augustus, 2012 - **16:30** - Room

**Break and visit of Exhibitors**

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Chair Person(s):

Wednesday 29 augustus, 2012 - **17:00** - Room Grand Amphi

**Plenary lecture 2**

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Chair Person(s): N. Benahmed

**Kariba dam on Zambezi river**

C. Noret and E. Bollaert

Thursday 30 augustus, 2012 - **8:30** - Room Grand Amphi

**Plenary lecture 3**

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Chair Person(s): C. Chevalier

**Contribution of entrapped air to liquefaction and wave scour around coastal structures**

M. Mory and H. Michallet

Thursday 30 augustus, 2012 - **9:15** - Room Grand Amphi

**Plenary lecture 4**

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Chair Person(s): C. Chevalier

**Approaches to determine the CSD for understanding filtration phenomena in granular materials**

K.J. Witt and E. Vincens

Thursday 30 augustus, 2012 - **10:00** - Room

**Break and visit of Exhibitors**

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Chair Person(s):

Thursday 30 augustus, 2012 - **10:30** - Room C3

**1.2 Erosion at continuum scale**

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Chair Person(s): J.-R. Courivaud

- **Effect of particle loss on soil behaviour**

D. Kelly, J. McDougall and D. Barreto

- **Modeling the Behavior of Soil Subjected to Internal Erosion**

P.-Y. Hicher

- **Hydro-mechanical analysis of internal erosion with mass exchange between solid and water**

R. Uzuoka, T. Ichiyama, T. Mori and M. Kazama

- **Internal Erosion and Infiltration Processes in Cohesionless Soils: A Multiphase and Multiscale Continuum Approach**

A. Schaufler, H. Steeb, C. Becker and A. Scheuermann

- **Erosion threshold of a water immersed granular bed by a normal water jet**

S. Badr, G. Gauthier and P. Gondret

- **Physical and Numerical Modelling of Sand Liquefaction in Waves Interacting with a Vertical Wall**

H. Michallet, E. Catalano, C. Berni, B. Chareyre, V. Rameliarison and E. Barthélemy

- **Erosion measurement on immersed situations : a state of the art**

A. Jerez, C. Chevalier and F. Larrarte

- **Water-Soil Interaction Simulation with Smoothed Particle Hydrodynamics**

B. Stefanova, K. Seitz, J. Bubel and J. Grabe

- **The Impact of Suction Dynamics Effects on Erosion: Dynamic Stability and Optimal Design of Intertidal Sandbars**

S. Sassa, Y. Watabe, S. Yang and K. Shirai

Thursday 30 augustus, 2012 - **10:30** - Room Pradel

## **2.1 Bridge Scour (3)**

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Chair Person(s): Y.-M. Chiew

- **Real-Time Assessment of Bridge Vulnerability**

G. Crotti, F. Ballio, S. Manzoni, F. Inzoli, A. Cigada and G. Rossi

- **A Two-Phase Quantitative Assessment Process on Scour Potential of Bridge at Sandy Riverbeds**

H. Wang, S.-S. Hung and C.-Y. Wang

- **Effect of the river bed stratification on scour at guide banks**

B. Gjunsburgs and E. Govsha

- **Edge scour in steady current adjacent to stone covers**

T. Petersen, B.M. Sumer, K.E. Meyer, J. Fredsøe and E. Christensen

- **Multiple floods impact on scour at engineering structures**

B. Gjunsburgs, G. Jaudzems and E. Govsha

- **Submerged-Flow Bridge Scour under Clear-Water Conditions**

J.J. Shen, H. Shan, O. Suaznabar, Z. Xie, C. Bojanowski, S. Lottes and K. Kerenyi

- **Updating pier scour equations for coarse bed material**

J. Guo, K. Kerenyi, O. Suaznabar, H. Shan, J.J. Shen and Z. Xie

- **Determination of Rectangular Collar Dimensions for Reducing Scour around Bridge Pier**

A. Jahangirzadeh, S. Akib, Z. Ismail, B. Kamali and M. Kakouei



Thursday 30 augustus, 2012 - 10:30 - Room C4

## **2.6 Scour and Marine structures (1)**

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Chair Person(s): B.m. Sumer

- **Offshore wind energy foundations - geotextile sand-filled containers as effective scour protection systems**

K. Werth and K. Peters

- **Burial and Scour of Short Cylinders due to Long-Crested and Short-Crested Nonlinear Random Waves**

D. Myrhaug, M.C. Ong and P. Hesten

- **Scour around Vertical Pile Foundations for Offshore Wind Turbines due to Long-Crested and Short-Crested Nonlinear Random Waves plus a Current**

D. Myrhaug, M.C. Ong and P. Hesten

- **Scour monitoring around offshore jackets and gravity based foundations**

A. Bolle, J. De Winter, W. Goossens, P. Haerens and G. Dewaele

- **Destabilization of A Caisson-type Breakwater by Scouring and Seepage Failure of The Seabed due to a Tsunami**

T. Imase, K. Maeda, M. Miyake, Y. Sawada, H. Sumida and K. Tsurugasaki

- **Effect of floating or near-surface structures on sandy bed mobility under incoming waves in deep water conditions**

V. Rey, J. Touboul and D. Sous

- **Evolution of scour induced by propeller wash**

J.-H. Hong, Y.-M. Chiew, I. Susanto and N.-S. Cheng

- **Scour Prediction at Offshore Structures: The Experience within the UK offshore Wind Industry and the Utility of the DNV (2011) Guidance**

K. Black

Thursday 30 augustus, 2012 - 10:30 - Room Esquillan

## **3.3 Internal erosion characterization: lab and field tests (1)**

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Chair Person(s): K.j. Witt

- **A Statistical Approach to Identify Mobile Particles of Widely Graded Soils**

M.R. Salehi Sadaghiani, K.J. Witt and H. Jentsch

- **Influence of Internal Erosion on Deformation and Strength of Gap-Graded Non-cohesive Soil**

L. Ke and A. Takahashi

- **Effects of loading history and size-scale in suffusion process in granular matter**

Y. Sail, D. Marot and L. Sibille

**- Erodibility Characterisation for Suffusion Process in Cohesive Soil by Two Types of Hydraulic Loading**

H.-H. Nguyen, D. Marot and F. Bendahmane

**- Internal Erosion of Clayey Soils Protected by Granular Filters**

F. Delgado-Ramos, J.M. Poyatos and F. Osorio

**- Physical modeling tests on the slope destabilization induced by internal erosion**

K. Horikoshi, L. Ke and A. Takahashi

**- Influence of Angularity of Coarse Fraction Grains on Internal Erosion Processes**

D. Marot, F. Bendahmane and H.-H. Nguyen

**- Laboratory Investigation of Initiation and Development of Internal Erosion in Soils under Complex Stress States**

D.S. Chang, L. Zhang and T.H. Xu

**- Prevention of Internal Erosion by Cut-Off Walls in River Embankments on the Upper Rhine**

B. Odenwald and K. Ratz

**- Internal stability of granular materials in triaxial tests**

H. Souli, J.-J. Fry, L. Andrianatrehina, Q.T. Phan and J.-M. Fleureau

Thursday 30 augustus, 2012 - **12:40** - Room

**Lunch**

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Chair Person(s):

Thursday 30 augustus, 2012 - **14:10** - Room C3

**1.3 Erosion at Structure scale (1)**

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Chair Person(s): M. Heibaum

**- Aeration Drag Effects On Unlined Spillways**

L. Wu, W. Peirson, S. Pells, K. Douglas and B. Miller

**- Time Development of Scour by Circular Wall Jets in Cohesive Soils at Varied Scale**

V. Sharma and K. Mazurek

**- Numerical analysis of embankment erosion caused by overflow using shallow water equations**

K. Fujisawa, A. Murakami, S.-I. Nishimura and T. Shuku

**- Local Scour by offset and propeller jets**

Y.-M. Chiew, J.-H. Hong, I. Susanto and N.-S. Cheng

**- Influence of Small Head Hydropower on Upstream Bed Topography**

R. Moews and K. Koll

**- Evaluation of a High Resolution Acoustic Profiler for Hydraulic Erosion Studies**

S. Fischer

**- Falling Aprons at Circular Piers under Currents**

B. De Sonnevile, G. Van Velzen and H. Verheij

**- Effectiveness of River Training Structures in Bangladesh**

M.M. Rahman, M.A. Rahman and R.M. Munsur

Thursday 30 augustus, 2012 - **14:10** - Room C4

**2.5 Coastal management (2) and 2.6 Scour and marine structures (2)**

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Chair Person(s): V. Rey

**- Time scale of scour around a pile in combined waves and current**

T. Petersen, B.M. Sumer and J. Fredsøe

**- Restoration of the maritime nature of Mont-Saint-Michel - Design and use of a numerical hydrosedimentary model**

M. De Linares, R. Walther, A. Le Dissez, P. Cancel and R. Desguee

**- Measurement of the Variation Bed Shear Stress during a Wave Cycle**

T. Liiv and N. Oldekop

**- Erosion at transitions in landward slopes of dikes and levees due to wave overtopping**

H. Verheij, G. Hoffmans, B. Hardeman, M. Paulissen and A. Valk

**- Application of different ballasted geocomposite filter systems for the stabilisation of the seabed in the Venice lagoon**

D. Cazzuffi, V. Mainieri and A. Sala

**- Granular Filter Design for Scour Protection at Offshore Structures**

D. Schürenkamp and M. Bleck

Thursday 30 augustus, 2012 - **14:10** - Room Esquillan

**3.3 Internal erosion characterization: lab and field tests (2)**

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Chair Person(s): D. Marot

**- Internal Erosion of Cohesive Soils: Laboratory Parametric Study**

N. Benahmed and S. Bonelli

**- An Enhanced Crumb Test for a better characterization of water effects on soils.**

I. Haghighi, C. Chevalier and P. Reiffsteck

**- Effect of test parameters on the results of the “ Jet Erosion Test ”**

L.Q. Dao, H. Souli, J.-R. Courivaud, J.-J. Fry, P. Pinettes and J.-M. Fleureau

**- Resistance to erosion of lime treated soils: a complete parametric study in laboratory**

C. Chevalier, I. Haghighi and G. Herrier

**- A new test for the characterization of suffusion into embankment and dam**

J. Monnet, O. Plé, D.M. Nguyen and P. Plotto

**- A Test for Cementation Potential of Granular Filter Material**

R. Rinehart, M. Pabst, B. Jackson and K. Ngozi-Bullock

**- Some Elements of Comparison between two Laboratory Devices for Soil Erosion Testing.**

A. Bennabi, T. Karoui, A. Benamar and H.-Q. Wang

**- Influence of fine particles on internal erosion of sand-clay mixtures**

A. Benamar, T. Karoui, A. Bennabi, H.-Q. Wang, A. Alem and N.-D. Ahfir

**- Erodibility diagnostic of existing hydraulic earthworks by Mobile Jets Erosion Test - In-situ database**

P. Reiffsteck, I. Haghighi and C. Chevalier

Thursday 30 augustus, 2012 - **14:10** - Room Pradel

### **3.5 engineering methods and modeling (1)**

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Chair Person(s): P. Sauvaget

**- A simplified design method for plunge pools scour control downstream of large dams spillways, and its application**

E. Frossard

**- Assessment of rock scour depth in plunge pools**

P. Asadollahi

**- A U-shape in-situ scour testing device**

T. Meyer, K. Kerenyi, Z. Xie, H. Shan and J.J. Shen

**- Development of a Novel 2D Pipe-Soil-Fluid Interaction Model for Subsea Pipeline Stability Design**

T. Griffiths

**- Numerical Prediction of Regressive Scour Potential at Choranche Dam (France)**

E. Bollaert, B. Blancher, O. Chulliat and F. Laugier

**- An Evaluation on Flood Resistant Capacity of Scoured Bridges- A Case Study of the Shuang-Yuan Bridge in Taiwan**

Y.-Y. Ko, J.-S. Chiou and Y.-C. Tsai

**- Monitoring and modeling of sediment transport in the watershed of Oued El Ardjem**

B. Chenaoui and B. Remini

Thursday 30 augustus, 2012 - **16:30** - Room

**Break and visit of Exhibitors**

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Chair Person(s):

Thursday 30 augustus, 2012 - **16:45** - Room Grand Amphi

**Plenary lecture 5**

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Chair Person(s): A. Benamar

**Sedimentation and Climate Change: Managing Global Threats to Water Supply and Power Generation Reliability and Sustainability**

G. Annandale

Friday 31 augustus, 2012 - **8:30** - Room Grand Amphi

**Plenary lecture 6**

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Chair Person(s): B. Hunt

**Bridge Scour Risk**

J.-L. Briaud, P. Gardoni and C. Yao

Friday 31 augustus, 2012 - **9:15** - Room Grand Amphi

**Plenary lecture 7**

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Chair Person(s): B. Hunt

**Effect of sediment transport on stability of offshore pipelines**

L. Cheng

Friday 31 augustus, 2012 - **10:00** - Room

**Break and visit of Exhibitors**

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Chair Person(s):

Friday 31 augustus, 2012 - **10:30** - Room C3

**1.3 Erosion at the Structure scale (2)**

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Chair Person(s): R. Whitehouse

- **Examples of dam failures caused by erosion**

A. Vogel

- **Full-Scale Testing of Levee Resiliency During Wave Overtopping**

C. Thornton, S. Hughes and B. Scholl

- **An Experimental Full-Scale Hydraulic Earthen Structure in Lime Treated Soil**

I. Charles, G. Herrier, C. Chevalier and E. Durand

**- Erosion Resistant Construction of Overflow Sections by means of Geosynthetic Concrete Mattresses**

M. Wilke, B. Krueger, M. Schuell and P. Tschernutter

**- Field Jet Erosion Tests of Treated Clay Levee Embankments**

B. Robbins and J. Wibowo

**- Prediction of Headcut Erosion Development on the Breach Slope**

G. Zhao, P. Visser, P. Peeters and H. Vrijling

**- Seepage under Hydraulic Structures Provided with Intermediate Filter**

S. McLoughlin and A. Ahmed

**- Validation of a new in-situ test, the Geomechameter**

J. Monnet

Friday 31 augustus, 2012 - **10:30** - Room Pradel

**2.3 Management and sediment in dam reservoir**

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Chair Person(s): G. Annandale

**- Application of SWAT Model to Estimate the Runoff and Sediment Load from the Right Bank Valleys of Mosul Dam Reservoir.**

M. Ezz-Aldeen, N. Al-Ansari and S. Knutsson

**- Improving the management of sediments in the downstream part of the Isere river: Modeling Approach**

S. Menu, E. Valette and J.-C. Carre

**- Laboratoty measurements of sand/mud sediment erodability in the Longefan EDF retention basin**

F. Orvain and E. Laperrousaz

**- The effect of operation of Mosul dam on sediment transport in its reservoir**

I. Issa, N. Al-Ansari, S. Knutsson and M. Khaleel

**- Feedback from reservoir sedimentation on the flow pattern in rectangular basins**

E. Camnasio, S. Erpicum, E. Orsi, M. Piroton, A. Schleiss and B. Dewals

**- How to predict the sedimentological impacts of reservoir operations?**

E. Valette and M. Jodeau

**- Sediment Management in Reservoirs of Afghanistan**

H. Nouri

**- River Chelif between erosion and pollution**

S. Harkat, M. Arabi and S. Taleb

Friday 31 augustus, 2012 - 10:30 - Room Esquillan

### **3.4 Methods of detection on site**

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Chair Person(s): S. Palma-Lopes

- **Improvement of leakage monitoring in levees by the use of distributed fiber optics sensors**

Y.-L. Beck, P. Cunat, M. Reboud, J.-R. Courivaud, J.-J. Fry and C. Guidoux

- **Scour Erosion Detection with a Fibre Optics Sensor Enabled Geotextile**

O. Artieres, Y.-L. Beck and C. Guidoux

- **Experiences from Internal Erosion Detection and Seepage Monitoring based on Temperature Measurements on Swedish Embankment Dams**

P. Sjö Dahl and S. Johansson

- **Temperature as Tracer for In Situ Detection of Internal Erosion**

J. Dornstädter and B. Heinemann

- **Monitoring of the suffusion process development using thermal analysis performed with IRFTA model.**

K. Radzicki and S. Bonelli

- **Improving DC-Electrical Resistivity Imaging techniques for water infiltration detection and monitoring in earth hydraulic structures**

S. Palma-Lopes, Y. Fargier, D. François, C. Fauchard, D. Jacqueline and P. Côte

- **Robustness of the 2D DC-Resistivity Imaging method applied to dike investigation: common practice, limitations and recent developments**

Y. Fargier, S. Palma-Lopes, D. François, C. Fauchard, A. Joubert and P. Côte

- **Classification of the Eroded Cavings behind Concrete-faced Embankments by Ground-Penetrating Radar**

D.-H. Lee, J.-H. Wu, H.-M. Lin, P.-M. Liao, G.-Z. Zeng, G.-C. Yang and C.-J. Liao

- **Preliminary Implementation of Geophysical Techniques to Monitor Embankment Dam Filter Cracking at the Laboratory Scale**

R. Rinehart, M. Parekh, J. Rittgers, M. Mooney and A. Revil

- **Spatial Representation of the Potential for Internal Instability of a Dam Core**

M. Smith

Friday 31 augustus, 2012 - 12:40 - Room

## **Lunch**

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Chair Person(s):

Friday 31 augustus, 2012 - 14:10 - Room C3

## **1.3 Erosion at the structure scale (3)**

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Chair Person(s): G. Hoffmans

- **Assessing the Potential for Seepage Barrier Defects to Propagate into Seepage Failure Modes**

J. Rice and R. Van Leuven

- **Effect of Jet-flipping on Scour Development downstream of a Sluice Gate**

C. Xie and S.-Y. Lim

- **Application of different failure models for the grass cover following in situ wave overtopping experiments at the land-side slope of a river dike in Belgium**

P. Peeters, L. De Vos and B. Vandevoorde

- **Scour Development Around Offshore Wind Turbine Foundation: Field Measurement & Analysis**

F. Hatipoglu Dixen, M. Dixen, J. Pedersen and J. Fris Dahl

- **Evolution of beach morphodynamics in light of sediment budget assessment with the Coast of Joetsu, Niigata, Japan.**

R. Azuma, T. Hiraishi and H. Sekiguchi

- **Evaluation of Rock Scour using Block Theory**

M. George, N. Sitar, R. Goodman and G. Annandale

- **Effects of the sustainable management of water, biomass and soil fertility (GCES) on agricultural production in mountainous mediterranean Algerian**

M. Arabi and E. Roose

Friday 31 augustus, 2012 - 14:10 - Room Pradel

## **2.7 Risk analysis and risk assessment case studies and validation**

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Chair Person(s): J.-L. Briaud

- **Predicting Piping Potential in Levees**

E. Glynn, M. Quinn and J. Kuszmaul

- **Determining When to Remediate an Embankment for Potential Internal Erosion Concerns**

W. Engemoen

- **Validation Concept for Highly Morphodynamically Influenced Areas Using CPT Testing Results**

M. Fritsch, N. Vögeding and E. Schmidt



**- Risk-based methodology applied to bridge scour: analysis and implementation on the national road network**

S. Staal and V. Fardeau

**- Reliability-Based Dam Erodibility Assessment**

C.M. Mok, R. Wright, R. Malhotra, J. Cooley and R. White

**- Marine Scour Management - A Risk Based Approach**

J. Harris and R. Whitehouse

**- Scour risk assessment at river crossings**

M. Roca and R. Whitehouse

Friday 31 augustus, 2012 - 14:10 - Room Esquillan

**3.3 Internal erosion characteriation: lab and field tests (2) and  
3.6 Internal erosion Repair**

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Chair Person(s): R. Bridle

**- The Friant-Kern canal : a forgotten example of lime-treated structure in hydraulic conditions**

G. Herrier, D. Lesueur, D. Puiatti, E. Berger and S. Bonelli

**- Seepage Failure of Sand in Three Dimensions -Experiments and Numerical Analyses-**

T. Tanaka, S. Song, Y. Shiba, S. Kusumi and K. Inoue

**- A Case Study on Seepage Failure of Bottom Soil within Double-Sheet-Pile Wall-Type Ditch**

T. Tanaka, W. Takashima, T. Pham, K. Urata and N. Uemura

**- Control of the risk of dyke failure caused by contact erosion**

R. Beguin, J.-J. Fry, C. Picault, J.-R. Courivaud and Y.-H. Faure

**- Water flow blocking process in permeable soils by injection of specific grouts**

Q.Q. Truong, J. Canou, J.-C. Dupla, C. Chevalier and M. Chopin

**- Methods to Mitigate Internal Erosion Risks in Embankment Dams**

W. Engemoen

**- Characterization of Internal erosion susceptibility in Sandstone Dam Foundations**

J.-J. Fry and G. Jorge

Friday 31 augustus, 2012 - 15:40 - Room Grand Amphi

**Plenary lecture 8**

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Chair Person(s): P. Chassé

**Management of coastline in France**

A. Souquiere

Friday 31 augustus, 2012 - **16:50** - Room Grand Amphi  
**Closing conference**

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Chair Person(s):