River Flow 2010

International Conference on Fluvial Hydraulics
September 8-10, 2010
TU Braunschweig
Germany

TENTATIVE PROGRAMME

26.07.2010, including suggested chairs

Bulletin 3 with more detailed information on the conference venue is soon available on http://www.riverflow2010.org/

Programme at a glance

	Sept. 7 Tuesday	Sept. 8 Wednesday	Sept. 9 Thursday	Sept. 10 Friday	Sept. 11 Saturday
08:00	Registration	Registration	Registration	Registration	Post Conference Technical Tour
08:10					
08:20					
08:30			Oral Session 4	Oral Session 6	
08:40					
08:50					
09:00	Master Classes	Opening Ceremony Keynote Lecture 1 C. Heinzelmann	A1.2 / A5.2 / B1.4 / B2.2 / C5.1	A1.4 / A4.1 / A2.1 / B2.4 / C3.1	
09:10					
09:20					
09:30					
09:40					
09:50					
10:00	Coffee break				
10:10					
10:20			Coffee break	Coffee break	
10:30	Master Classes	Coffee break			
10:40					
10:50			Keynote Lecture 2 S.E. Coleman Keynote Lecture 3 W. Rodi	Keynote Lecture 4 H. Nepf Keynote Lecture 5 D.W. Knight	
11:00		Oral Session 1			
11:10					
11:20					
11:30		A3.1 / B4.1 / B1.1 / C1			
11:40					
11:50					
12:00					
12:10					
12:20			Lunch	Lunch	
12:30	Lunch				
12:40					
12:50		Lunch			
13:00					
13:10					
13:20					
13:30				Oral Session 7	
13:40					
13:50		Oral Session 2	Poster Session	A4.2 / A2.2 / B2.5 / B3.1 / C3.2	
14:00					
14:10					
14:20					
14:30		A3.2 / B4.2 / B2.1 / B1.2 / C2			
14:40					
14:50	Master Classes				
15:00				Coffee break	
15:10					
15:20		Coffee break	Coffee break		
15:30				Oral Session 8	
15:40					
15:50					
16:00	Coffee break	Oral Session 3	Oral Session 5	A4.3 / A2.3 / B3.2 / C4 / C6	
16:10					
16:20					
16:30		A1.1 / A5.1 / B1.3 / B5	A1.3 / B1.5 / B6 / B2.3 / C5.2		
16:40					
16:50					
17:00				Closing Ceremony	
17:10	Master Classes				
17:20					
17:30					
17:40					
17:50					
18:00					
20:00	Social Event	Welcome Reception	Conference Banquet		

Daily Conference Programme

Tuesday, September 7, 2010

Registration (08:00 - 15:00, Campus Nord; 15:30 - 18:30, Altgebäude)

Master Classes (08:00 - 18:00, Campus Nord)

MC 1: Flow – vegetation – sediment interactions
Juha Järvelä & Vladimir Nikora

MC 2: River rehabilitation
Tetsuro Tsujimoto & Heinz Patt

MC 3: River morphology and morphodynamics
Ana Maria Ferreira da Silva & Mustafa Altinakar

MC 4: Mass transport and dispersion processes in rivers
Vincent H. Chu & Wim Uijttewaal

MC 5: Experimental investigation of river flow and sediment transport
Aronne Armanini & Simon Tait

MC 6: Dam-break flow and flash flood modeling
Yves Zech & André Paquier

MC 7: Flood management and control
Cancelled due to insufficient numbers of registrations

MC 8: Sediment in reservoirs
Nils Reidar B. Olsen & Thorsten Stoesser

Master Class Dinner (20:00 - 22:00, Wirtshaus am Kohlmarkt)

Wednesday, September 8, 2010

Registration (08:00 - 18:00, Altgebäude)

Opening Ceremony and Keynote Lecture 1 (09:00 - 10:30, Room Elbe)

Welcome Addresses

- *A. Dittrich*, River Flow 2010 Chairman
- *A.M. Ferreira da Silva*, IAHR Fluvial Hydraulics Committee
- *J. Hesselbach*, President TU Braunschweig
- *F. Stenschke*, Federal Ministry of Transport, Building and Urban Development
- *S.-R. Heinrich*, Lower Saxony Water Management, Coastal Defence and Nature Conservation Agency (NLWKN); Water Resources and River Basin Management Department

Short Presentation

- *W. Brinker*, CEO of EWE AG

Keynote Lecture

Application of Innovative Methods in Waterways Engineering (Proc. p. 3)

C. Heinzelmann

Chairman: A. Dittrich

Coffee Break (10:30 - 11:00)

Oral Session 1 (11:00 - 12:40)

4 parallel sessions in rooms Elbe, Rhein, Weser, and Donau

Lunch Break (12:40 - 13:40)

Oral Session 2 (13:40 - 15:20)

4 parallel sessions in rooms Elbe, Rhein, Weser, and Donau

Coffee Break (15:20 - 15:50)

Oral Session 3 (15:50 - 17:30)

4 parallel sessions in rooms Elbe, Rhein, Weser, and Donau

Welcome Reception (20:00 - 22:00, Braunschweigisches Landesmuseum)

Daily Conference Programme

Thursday, September 9, 2010

Registration (08:00 - 18.00, Altgebäude)

Oral Session 4 (08:30 - 10:10)

4 parallel sessions in rooms Elbe, Rhein, Weser, and Donau

Coffee Break (10:10 - 10:40)

Keynote Lectures 2 and 3 (Rhein) 10:40 - 12:10

Fluvial sediment transport and morphology:
views from upstream and midstream (Proc. p. 11)

S.E. Coleman

Large eddy simulation of river flows (Proc. p. 23)

W. Rodi

Chairwoman: A.M. Ferreira da Silva

Lunch Break (12:10 - 13:20)

Poster Session (13:20 - 15:20)

Poster at display in *Architekturpavillon*

Fluvial Hydraulics Committee Meeting (13:20 - 14:50, room Oder)

Coffee Break (15:20 - 15:50)

Oral Session 5 (15:50 - 17:30)

4 parallel sessions in rooms Elbe, Rhein, Weser, and Donau

Conference Dinner

Kaiserpfalz, Goslar, Busses depart 19:00 from hotels, return approx. 23:30

Friday, September 10, 2010

Registration (08:00 - 18.00, Altgebäude)

Session 7 (08:30 - 10:10)

4 parallel sessions in rooms Elbe, Rhein, Weser, and Donau

Coffee Break (10:10 - 10:40)

Keynote Lectures 4 and 5 (Rhein) 10:40 - 12:10

Flow, deposition, and erosion near finite patches of vegetation (Proc. p. 33)

H. Nepf, L. Zong & J. Rominger

Solving open channel flow problems with a simple lateral distribution model (Proc. p. 41)

D. W. Knight, X. Tang, M. Sterling, K. Shiono & C. Mc Gahey

Chairman: *M. Altinakar*

Lunch Break (12:10 - 13:20)

Session 8 (13:20 - 15:00)

4 parallel sessions in rooms Elbe, Rhein, Weser, and Donau

Coffee Break (15:00 - 15:30)

Session 9 (15:30 - 17:10)

4 parallel sessions in rooms Elbe, Rhein, Weser, and Donau

Closing Ceremony (17:10 - 17:30, Room Elbe)

Closing remarks by

- *A. Dittrich*, River Flow 2010 Chairman
- *...*

Presentation of River Flow 2012

- *R. Oreamuno,* LOC River Flow 2012

Oral Session 1, Wednesday, September 8, 11:00 - 12:40

Elbe	Rhein	Weser	Donau
A3.1 Overbank flows and vegetation	***B4.1 Sediment-structure interaction***	***B1.1 Mechanics of sediment transport***	***C1 Flow management and control***
Chaired by J. Järvelä & T. Marjoribanks	***Chaired by W. Hager & B. Rodriguez***	***Chaired by S. Tait & F. Bagherimiyab***	***Chaired by J. Napiorkowski & T. Wang***
The effect of coherent waving motion on turbulence structure in flexible vegetated open channel flows (Proc. p. 429)	Analysis of a fluvial groynes system on hydraulic scale model (Proc. p. 1177)	Eddy educed entrainment (Proc. p. 747)	Automated operation of chains of barrages - Development of controller algorithms with the use of model-based design (Proc. p. 1399)
Nezu, I. & Okamoto, T.	*Armanini, A., Sartori, F., Tomio, G., Cerchia, F. & Vergnani, M.*	*Smart, G., Plew, D. & Gateuille, D.*	*Gebhardt, M., Schmitt-Heiderich, P. & Wohlfart, S.*
Flow penetration into the canopy of the submerged vegetation: definitions and quantitative estimates (Proc. p. 437)	Assessment of flood damage risk for abutments in river floodplains (Proc. p. 1185)	Instantaneous pressure measurements on a spherical grain under threshold flow conditions (Proc. p. 755)	A conceptual river model to support real-time flood control (Demer River, Belgium) (Proc. p. 1407)
Nikora, N. & Nikora, V.	*Gjunsburgs, B., Jaudzems, G. & Govsha, E.*	*Celik, A.O., Diplas, P. & Dancey, C.L.*	*Chiang, P-K., Willems, P. & Berlamont, J.*
Flow-vegetation interaction at a scale of individual plant: a case study of *Ranunculus penicillatus* (Proc. p. 445)	Effect of low tailwater during drought on scour conditions downstream of an ogee spillway (Proc. p. 1193)	Flume LES of a glued spheres layer - Detailed analysis of initial motions of a single grain (Proc. p. 763)	An integrated database manager to fore-cast estuarine dynamics and water quality in the Guadalquivir river (Spain) (Proc. p. 1415)
Siniscalchi, F., Nikora, V.I., Cameron, S.M., Lacey, R.W.J. & Marion, A.	*Hong, S.H., Kim, S.J., Sturm, T., Stoesser, T. & González-Castro, J.A.*	*Grünzner, M. & Rutschmann, P.*	*Bramato, S., Losada, M.A., Contreras, E. & Polo, M.J.*
The hydrodynamic drag of full scale trees (Proc. p. 453)	Assessing equilibrium clear water scour around single cylindrical piers (Proc. p. 1207)	Incipient rolling of coarse particles in water flows: a dynamical perspective (Proc. p. 769)	Modelling and simulation of floods in al-pine catchments equipped with complex hydropower schemes (Proc. p. 1421)
Wilson, C.A.M.E., Xavier, P., Schoneboom, T., Aberle, J., Rauch, H.-P., Lammeraner, W., Weissteiner, C. & Thomas, H.	*Lança, R., Fael, C. & Cardoso, A.H.*	*Valyrakis, M., Diplas, P., Celik, A.O. & Dancey, C.L.*	*Bieri, M., Schleiss, A.J. & Fankhauser, A.*
Flow resistance parameters for natural emergent vegetation derived from a porous media model (Proc. p. 461)	Scour and dune morphology in presence of large wood debris accumulation at bridge pier (Proc. p. 1223)	Numerical simulation of spheres moving and colliding close to bed streams, with a complete characterization of turbulence (Proc. p. 777)	Long term claims on the Dutch river area: handling climate change, safety, naviga-tion and nature (Proc. p. 1429)
Zinke, P.	*Pagliara, S. & Carnacina, I.*	*Bombardelli, F.A., González, A.E., Moreno, P.A. & Calo, V.M.*	*Schielen, R.M.J. & Havinga, H.*

Oral Session 2, Wednesday, September 8, 13:40 - 15:20

Elbe	Rhein	Weser	Donau
A3.2 Overbank flows and vegetation	***B4.2 Sediment-structure interaction B2.1 River morphology and morphodynamics***	***B1.2 Mechanics of sediment transport***	***C2 River habitat management and restoration***
Chaired by H. Nepf & S. Tealdi	***Chaired by S. Pagliara & C. Béraud***	***Chaired by T. Tsujimoto & M. Henning***	***Chaired by S. Wieprecht & L. Bardini***
A general analytical model for lateral velocity distributions in vegetated channels (Proc. p. 469)	Incision and width changes caused by dam removal. Experiments and data analysis (Proc. p. 969)	Downstream fining in sand-bed rivers (Proc. p. 831)	Incipient motion and drift of benthic invertebrates in boundary shear layers (Proc. p. 1453)
Tang, X., Sterling, M. & Knight, D.W.	*Ferrer-Boix, C., Viparelli, E., Cantelli, A., Haydel, R., Parker, G. & Martín-Vide, J.P.*	*Frings, R.M., Ottevanger, W. & Sloff, C.J.*	*Schnauder, I., Rudnick, S., Garcia, X.-F. & Aberle, J.*
Long-term flow field monitoring at the Upper Rhine floodplains (Proc. p. 477)	Experimental analysis of the morphological evolution induced by a flow in a sudden channel constriction (Proc. p. 1231)	The effect of river dunes on the morphodynamic response to overloading (Proc. p. 839)	Hydraulic conditions over bed forms control the benthic fauna distribution in a lowland river (Spree River, Germany) (Proc. p. 1463)
Bölscher, J., Schulte, A. & Huppmann, O.	*Goutière, L., Zech, Y., Swartenbroekx, C. & Soares-Frazão, S.*	*Blom, A.*	*Blettler, M., Sukhodolov, A. & Tockner, K.*
Simultaneous measurements of concentration and velocity with combined PIV and planar LIF in vegetated open-channel flows (Proc. p. 487)	Design of a meandering ramp located at the river "Große Tulln" (Proc. p. 1239)	Development of supply-limited transport due to vertical sorting of a sand-gravel mixture (Proc. p. 847)	Eco-system-modelling for a German Lowland River: Input generated by an artificial flood event (Proc. p 1469)
Okamoto, T., Nezu, I. & Katayama, A.	*Sindelar, C. & Knoblauch, H.*	*Tuijnder, A.P., Spekkers, M.H. & Ribberink, J. S.*	*Koslitz, S. & Lengricht, J.*
Space-time correlation and momentum exchanges in compound open-channel flow by simultaneous measurements of two-sets of ADVs (Proc. p. 495)	Bed load transport processes at river flow power plants - Hydraulic model test for the lower Salzach River (Proc. p. 1253)	Enhanced insight on the effects of boulders on bedload transport (Proc. p. 855)	Quantifying the physical alterations of river reaches using a regional river morphology reference model. A step towards river restoration (Proc. p. 1477)
Sanjou, M., Nezu, I. & Itai, K.	*Brinkmeier, B. & Aufleger, M.*	*Dermisis, D. & Papanicolaou, A.N.*	*Gob, A.F., Belliard, J., Albert, M.-B., Navratil, B.O., Sauquet, C.E. & Catalogne, C.*
A comparison of overbank flow conditions in skewed and converging/diverging channels (Proc. p. 503)	Physical and numerical modeling of sediment transport in the river Salzach (Proc. p. 1259)	Numerical simulation of ripple formation (Proc. p. 871)	Gravel bar inundation frequency: an indicator for the ecological potential of a river (Proc. p. 1485)
Chlebek, J., Bousmar, D., Knight, D.W. & Sterling, M.	*Stephan, U. & Hengl, M.*	*Cui, Y., Nguyen, Y.Q. & Wells, J.C.*	*Gostner, W., Schleiss, A.J., Annable, W.K. & Paternolli, M.*

Oral Session 3, Wednesday, September 8, 15:50 - 17:30

Elbe	Rhein	Weser	Donau
A1.1 Turbulent open channel flow and transport phenomena	***A5.1 Interaction with structures***	***B1.3 Mechanics of sediment transport***	***B5.1 Bank erosion and protection***
Chaired by I. Nezu & A. Bertsch	***Chaired by G. Constantinescu & L.W. Tan***	***Chaired by H. Schüttrumpf & N. Claude***	***Chaired by M. Greco & I. Mera***
Turbulent flow structure in meandering vegetated open channel (Proc. p. 153)	Flow around submerged groynes in a sharp bend using a 3D LES model (Proc. p. 643)	3D near-bed flow field measurements at low sediment transport rates (Proc. p. 785)	Integrated effect of parameter uncertainty in riverbank stability modelling (Proc. p. 1277)
Jahra, F., Yamamoto, H., Hasegawa, F. & Kawahara, Y.	*Kashyap, S., Rennie, C.D., Townsend, R., Constantinescu, G. & Tokyay, T.E.*	*Tregnaghi, M., Tait, S.J., Bottacin-Busolin, A. & Marion, A.*	*Samadi, A., Amiri-Tokaldany, E. & Darby, S.E.*
Turbulent flow over a mildly sloped pool-riffle sequence (Proc. p. 163)	Experimental study of head shape effects on shear stress distribution around a single groyne (Proc. p. 651)	Effects of relative submergence on flow and sediment patterns around clasts (Proc. p. 793)	Modelling riverbank retreat by combining reach-scale hydraulic models with bank-scale erosion and stability analyses (Proc. p. 1285)
Stoesser, T., Kara, S., MacVicar, B. & Best, J.	*Safarzadeh, A., Salehi Neyshabouri, S.A.A., Ghodsian, M. & Zarrati, A.R.*	*Papanicolaou, A.N., Tsakiris, A.G. & Kramer, C.M.*	*Nardi, L. & Rinaldi, M.*
Scalar dispersion in strongly curved open-channel flows (Proc. p. 169)	Spatial water surface variations in open channel flows downstream of side disturbances (Proc. p. 659)	Diffusion coefficient of suspended sediment and kinematic eddy viscosity of flow containing suspended load (Proc. p. 801)	Effects of spatial variability on the estimation of erosion rates for cohesive riverbanks (Proc. p. 1309)
van Balen, W., Uijttewaal, W.S.J. & Blanckaert, K.	*Hosoda, T., Saif, A., Puay, H.T. & Kouchi, Y.*	*Tsujimoto, T.*	*Nam, S., Petrie, J., Diplas, P. & Gutierrez, M.S.*
Measuring and modelling flow structures in a small river (Proc. p. 179)	Flow exchange between a channel and a rectangular embayment equipped with a diverting structure (Proc. p. 665)	Erosion characteristics of cohesive sediment mixtures (Proc. p. 815)	Modelling of undercutting and failure of non-cohesive riverbanks (Proc. p. 1323)
Gunawan, B., Sterling, M., Tang, X. & Knight, D.W.	*Ribi, J.-M., Boillat, J.-L. & Schleiss, A.J.*	*Kothyari, U.C. & Jain, R.K.*	*Nasermoaddeli, M.H. & Pasche, E*
Evaluation of bed shear stress from velocity measurements in gravel-bed river with local non-uniformity (Proc. p. 187)	Characteristics of the recirculation cell pattern in a lateral cavity (Proc. p. 673)	Experimental investigation of sediment deposition on floodplains (Proc. p. 823)	Effects of riparian vegetation on experimental channel dynamics (Proc. p. 1331)
Tominaga, A. & Sakaki, T.	*Riviere, N., Garcia, M., Mignot, E. & Travin, G.*	*Fraselle, Q., Bousmar, D. & Zech, Y.*	*van de Lageweg, W.I., van Dijk, W.M., Hoendervoogt, R. & Kleinhans, M.G.*

Oral Session 4, Thursday, September 9, 08:30 - 10:10

Elbe	Rhein	Weser	Donau
A1.2 Turbulent open channel flow and transport phenomena	***A5.2 Interaction with structures***	***B1.4 Mechanics of sediment transport B2.2 River morphology and morphodynamics***	***C5.1 Innovative field and laboratory instrumentation***
Chaired by V. Nikora & F. Schuurman	***Chaired by P. Rutschmann & V. Métraux***	**Chaired by *S.E. Coleman & O. van Duin***	***Chaired by J. Rodríguez & D. Meire***
Spatial variability in turbulent flows over water-worked gravel beds (Proc. p. 51) *Cooper, J.R. & Tait, S.J.*	Potential, performance limits and environmental effects of floating water mills (Proc. p. 707) *Müller, G., Jenkins, R. & Batten, W.M.J.*	Analysis of 3D-bed form migration rates (Proc. p. 879) *Henning, M., Aberle, J. & Coleman, S.E.*	Measuring streambed morphology using range imaging (Proc. p. 1715) *Nitsche, M., Turowski, J. M., Badoux, A., Pauli, M., Schneider, J., Rickenmann, D. & Kohoutek, T.K.*
Double-average methodology applied to turbulent gravel-bed river flows (Proc. p. 59) *Franca, M.J., Ferreira, R.M.L., Cardoso, A.H. & Lemmin, U.*	Drift accumulation at river bridges (Proc. p. 713) *Schmocker, L. & Hager, W.H.*	Comparison between 2D and 3D modelling of sediment transport: application to the dune evolution (Proc. p. 887) *Huybrechts, N., Villaret, C. & Hervouet, J.-M.*	Studying sediment transport in mountain rivers by mobile and stationary RFID antennas (Proc. p. 1723) *Schneider, J., Hegglin, R., Meier, S., Turowski, J.M., Nitsche, M. & Rickenmann, D.*
Influence of bed morphology on double-averaged turbulent quantities in low submergence gravel-bed flows (Proc. p. 67) *Ferreira, R.M.L., Amatruda, M., Simão, J., Ricardo, A.M., Franca, M.J. & Di Cristo, C.*	Space-time ice monitoring of Danube in Hungary by multiple web-cameras (Proc. p. 721) *Keve, G.*	Computational modelling of three-dimensional bedform evolution (Proc. p. 905) *Nabi, M.*	Monitoring of bedload in river beds with an hydrophone: first trials of signal analyses (Proc. p. 1731) *Belleudy, P., Valette, A. & Graff, B.*
Components of the spatially-averaged turbulent stress in open channel flows over rough beds (Proc. p. 75) *Pokrajac, D. & Manes, C.*	Design of unstructured block ramps: A state-of-the-art review (Proc. p. 729) *Tamagni, S., Weitbrecht, V. & Boes, R.*	The effect of migrating dune forms on the flow field of an alluvial river (Proc. p. 913) *Delecluyse, K., Troch, P. & Blanckaert, K.*	An innovative methodology/technology for streamflow observation (Proc. p. 1741) *Kawanisi, K., Razaz, M., Watanabe, S., Kaneko, A. & Abe, T.*
3-D Numerical computations of turbulence in a partially vegetated shallow channel (Proc. p. 83) *Souliotis, D. & Prinos, P.*	An investigation of scale effects in the flow past a vertical wall abutment (Proc. p. 737) *Koken, M. & Constantinescu, G.*	Mixed alluvial and non-alluvial bed topographies: observations, modeling and implications (Proc. p. 1067) *Sloff, C.J.*	Local boundary shear stress estimates from velocity profiles measured with an ADCP (Proc. p. 1749) *Petrie, J., Diplas, P., Nam, S. & Gutierrez, M.S.*

Oral Session 5, Thursday, September 9, 15:50 - 17:30

Elbe	Rhein	Weser	Donau
A1.3 Turbulent open channel flow and transport phenomena	***B1.5 Mechanics of sediment transport B6 Debris and hyperconcentrated flows***	***B2.3 River morphology and morphodynamics***	***C5.2 Innovative field and laboratory instrumentation***
Chaired by A. Marion & F. Prinz	***Chaired by A. Armanini & G. Harb***	***Chaired by D.W. Knight & S. Kashyap***	***Chaired by D. Bousmar & A. Die Moran***
A numerical study of turbulence influence on saltating grains (Proc. p. 105)	Modeling dam break granular flows (Proc. p. 895)	On the importance of discharge variability in the morphodynamic modeling of rivers (Proc. p. 985)	Development of a LED-based PIV/PTV system: Characterization of the flow within a cylinder wall-array in a shallow flow (Proc. p. 1665)
Bialik, R.J., Rowinski, P.M., Czernuszenko, W. & Nikora, V.I.	*Di Cristo, C., Leopardi, A. & Greco, M.*	*Huthoff, F., van Vuren, S., Barneveld, H.J. & Scheel, F.*	*Groß, D., Brevis, W. & Jirka, G.H.*
On the impulse criterion for entrainment of coarse grains in air (Proc. p. 113)	Experimental design of a diversion structure of granular debris flows (Proc. p. 1363)	From nature to lab: scaling self-formed meandering and braided rivers (Proc. p. 1001)	Coherent turbulence structure generated by wind-induced water waves (Proc. p. 1673)
Valyrakis, M., Diplas, P. & Dancey, C.L.	*Studer, M., Hachem, F. & Boillat, J.-L.*	*Kleinhans, M.G., van Dijk, W.M., van de Lageweg, W.I., Hoendervoogt, R., Markies, H. & Schuurman, F.*	*Sanjou, M., Nezu, I. & Toda, A.*
Aspects of turbulence and fine sediment resuspension in accelerating and decelerating open-channel flow (Proc. p. 121)	The thickness of the transport layer in stratified geomorphic flows (Proc. p. 1371)	Scaling properties of laboratory-generated river networks (Proc. p. 1011)	Preliminary results from an application of PTV to bed-load grains (Proc. p. 1681)
Bagherimiyab, F. & Lemmin, U.	*Ferreira, R.M.L., Leal, J.G.A.B. & Cardoso, A.H.*	*Oliveto, G., Palma, D. & Di Domenico, A.*	*Radice, A., Nokes, R. & Ballio, F.*
Turbulence structure in bottom layer of a tidal estuary (Proc. p. 99)	Hyperbolicity preserving HLL solver for two-layer shallow-water equations applied to dam-break flows (Proc. p. 1379)	Long-duration laboratory experiment of slow development of steady alternate bars (Proc. p. 1035)	Bed-load discharge measurement by ADCP in actual rivers (Proc. p. 1687)
Razaz, M. & Kawanisi, K.	*Swartenbroekx, C., Soares-Frazão, S., Spinewine, B., Guinot, V. & Zech, Y.*	*Crosato, A., Getaneh, A.A., Desta, F.B., Uijttewaal, W.S.J. & Le, U.*	*Yorozuya, A., Kanno, Y., Fukami, K. & Okada, S.*
Modelling flow through a permeable bed: a combined physical-numerical approach (Proc. p. 129)	An accurate well-balanced, generalized Roe-type approach for the simulation of debris flows over mobile bed (Proc. p. 1389)	Modelling alluvial channel dynamics in a river reach dominated by alternate bars (Proc. p. 1041)	Backscattered intensity profiles from horizontal Acoustic Doppler Current Profilers (Proc. p. 1693)
Blois, G., Sambrook Smith, G., Lead, J., Hardy, R., & Best, J.	*Rosatti, G. & Begnudelli, L.*	*Rüther, N., Guerrero, M. & Lamberti, A.*	*Moore, S.A., Le Coz, J., Paquier, A., & Hurther, D.*

Oral Session 6, Friday, September 10, 08:30 - 10:10

Elbe	Rhein	Weser	Donau
A1.4 Turbulent open channel flow and transport phenomena ***A4.1 Unsteady open channel flow and dam break*** ***Chaired by W. Rodi & H. Nogueira***	***A2.1 Bed roughness and flow resistance*** ***Chaired by K. Shiono & P. Zinke***	***B2.4 River morphology and morphodynamics*** ***Chaired by Y. Zech & J. Campagnol***	***C3.1 Numerical modelling in river engineering*** ***Chaired by N.R.B. Olsen & Y. Cui***
Three dimensional numerical modeling of flow around bridge piers using LES and RANS (Proc. p. 211) *Aghaee, Y. & Hakimzadeh, H.*	Biomechanics of aquatic plants and its role in flow-vegetation interactions (Proc. p. 245) *Miler, O., Albayrak, I., Nikora, V., Crane, T. & O'Hare, M.*	Sediment transport over static armour layers and its impact on bed stability (Proc. p. 929) *Koll, Kl., Koll, Ka. & Dittrich, A.*	Three-dimensional hydrodynamic and water-quality modelling of a CSO event in the Bubbly Creek, Chicago, IL (Proc. p. 1589) *Sinha, S., Liu, X. & Garcia, M.H.*
Changes in three-dimensional flow structure at a river confluence with changes in momentum ratio (Proc. p. 225) *Miyawaki, S., Constantinescu, G., Rhoads, B. & Sukhodolov, A.*	Flow-plant interaction at a leaf scale: effects of leaf shape and flexural rigidity (Proc. p. 253) *Albayrak, I., Nikora, V., Miler, O. & O'Hare, M.*	Analysis of pool-riffle dynamics through numerical morphological modelling (Proc. p. 945) *Almeida, G.A.M. & Rodríguez, J.F.*	Numerical simulation of scour development due to submerged horizontal jet (Proc. p. 1597) *Abdelaziz, S., Bui, M.D. & Rutschmann, P.*
Field and numerical study of river confluence flow structures (Proc. p. 233) *Baranya, S., Józsa, J. & Napoli, E.*	Flow resistance law in open-channel flows with rigid and flexible vegetation (Proc. p. 261) *Okamoto, T. and Nezu, I.*	An estimation of gravel mobility over an alpine river gravel bar (Arc en Maurienne, France) using PIT-tag tracers (Proc. p. 953) *Camenen, B., Le Coz, J., Paquier, A. & Lagouy, M.*	Flash flood simulation of the Toga River caused by localized torrential rain in urbanized area (Proc. p. 1605) *Fujita, I. & Kunita, Y.*
Gravity currents in a valley of trapezoidal shape (Proc. p. 599) *Keramaris, E. & Prinos, P.*	Hydraulic resistance of vegetated flows: Contribution of bed shear stress and vegetative drag to total hydraulic resistance (Proc. p. 269) *Schoneboom, T., Aberle, J. & Dittrich, A.*	Experimental study on a widening tributary channel and its influence on the confluence morphology (Proc. p. 961) *Leite Ribeiro, M., Boillat, J.-L., Schleiss, A.J. & Blanckaert, K.*	Comparison of different reliability analysis methods for a 2D morphodynamic numerical model of River Danube (Proc. p. 1615) *Kopmann, R. & Schmidt, A.*
Laboratory experiments on gravity currents moving on smooth and rough beds (Proc. p. 605) *Adduce, C., Lombardi, V., Sciortino, G. & La Rocca, M.*	Evaluation of the flow resistance in mobile bed vegetated rivers (Proc. p. 277) *Armanini, A., Cavedon, V. & Righetti, M.*	Numerical simulation of river channel processes with bank erosion in steep curved channel (Proc. p. 993) *Onda, S., Shirai, H., Hosoda, T., Arimitsu, T. & Ooe, K.*	2-D numerical modeling of rapidly varying shallow water flows by Smoothed Particle Hydrodynamics technique (Proc. p. 1621) *Vacondio, R., Mignosa, P., Rogers, B.D. & Stansby, P.K.*

Oral Session 7, Friday, September 10, 13:20 - 15:00

Elbe	Rhein	Weser	Donau
A4.2 Unsteady open channel flow and dam break	***A2.2 Bed roughness and flow resistance***	***B2.5 River morphology and morphodynamics*** ***B3.1 Sedimentation in reservoirs***	***C3.2 Numerical modelling in river engineering***
Chaired by A. Schleiss & M. Velickovic	***Chaired by P. Rowinski & A.M. Ricardo***	***Chaired by A. Paquier & W.M. van Dijk***	***Chaired by F. Bombardelli & R. Vesipa***
Overtopping and breaching of dikes – Breach profile and breach flow (Proc. p. 515) *Schmocker, L. & Hager, W.H.*	Contribution of secondary currents to momentum fluxes in natural river flows (Proc. p. 301) *Noß, C., Salzmann, T., Storchenegger, I. & Dittrich, A.*	Morphological characteristics of the river Rhine between Iffezheim and Bingen (Proc. p. 1077) *Weichert, R.B., Wahrheit-Lensing, A., Frings, R.M., Promny, M. & Vollmer, S.*	Simulation of flow in an open channel bend of strong curvature using Detached Eddy Simulation (Proc. p. 1527) *Constantinescu, G., Koken, M. & Zeng, J.*
Hybrid modelling of dike-break induced flows (Proc. p. 523) *Roger, S., Köngeter, J., Schüttrumpf, H., Erpicum, S., Archambeau, P., Pirotton, M., Schwanenberg, D. & Dewals, B.J.*	Turbulent flow in a meander bend of a lowland river: field measurements and preliminary results (Proc. p. 309) *Sukhodolov, A. & Kaschtschejewa, E.*	Investigation of horizontal coherent structures in a shallow open-channel flow using velocity signal decomposition (Proc. p. 1059) *Kanani, A., Ahmari, H. & Ferreira da Silva, A.M.*	Modeling flow in curved open channel by a quasi-3D Model (Proc. p. 1535) *Zobeyer, A.T.M.H. & Steffler, P.M.*
Velocity profiles in dam-break flows: Water and sediment layers (Proc. p. 533) *Aleixo, R., Soares-Frazão, S., Spinewine, B. & Zech, Y.*	Cohesive sediment processes in vegetated flows: preliminary field study results (Proc. p. 317) *Västilä, K.*	An improved meander migration formulation based on streambank erosion processes (Proc. p. 1027) *Langendoen, E.J., Motta, D., Garcia, M.H. & Abad, J.D.*	Turbulent structures in the flow through compound meandering channels (Proc. p. 1543) *Moncho-Esteve, I., Palau-Salvador, G., Shiono, K. & Muto, Y.*
Effects produced by breach morphology on the outflow discharge due to the overtopping of earthfill dams (Proc. p. 541) *De Lorenzo, G. & Macchione, F.*	Resistance prediction for streams under low flow conditions (Proc. p. 325) *Jordanova, A.A. & James, C.J.*	One-dimensional numerical modelling of turbidity currents: hydrodynamics and deposition (Proc. p. 1097) *Alves, E., Ferreira, R.M.L. & Cardoso, A.H.*	A depth averaged model of open channel flows with a horseshoe vortex (Proc. p. 1551) *Kimura, I., Hosoda, T. & Iwata, M.*
2D modeling of Big Bay dam failure in Mississippi: Comparison with field data and 1D model results (Proc. p. 547) *Altinakar, M.S., McGrath, M.Z., Ramalingam, V.P. & Omari, H.*	Reach-scale resistance of distributed roughness in channels (Proc. p. 333) *James, C.S. & Jordanova, A.A.*	Free surface algorithms for 3D numerical modelling of reservoir flushing (Proc. p. 1105) *Olsen, N.R.B. & Haun, S.*	Effect of abutment length on the bed shear stress and the horseshoe vortex system (Proc. p. 1561) *Koken, M. & Gogus, M.*

Oral Session 8, Friday, September 10, 15:30 - 17:10

Elbe	Rhein	Weser	Donau
A4.3 Unsteady open channel flow and dam break	***A2.3 Bed roughness and flow resistance***	***B3.2 Sedimentation in reservoirs***	***C4 Navigation waterways and dredging C6 Transport and fate of pollutants in rivers***
Chaired by W.S.J Uijttewaal & R. Aleixo	***Chaired by D. Pokrajac & C. Sindelar***	***Chaired by T. Stoesser & C. Dorfmann***	***Chaired by N.N. & G. de Villiers***
Representation of dam-breach geometry on a regular 2-D mesh using quadtree local mesh refinement (Proc. p. 561)	Shear stress measurements over smooth and rough channel beds (Proc. p. 367)	Trap efficiency of reservoirs on the Nile River (Proc. p. 1111)	Stability of minestone used as artificial bed material to compensate for bed subsidence caused by mining on the River Rhine (Proc. p. 1631)
McGrath, M., Altinakar, M.S. & Miglio, E.	*Carvalho, E., Maia, R. & Proença, M.F.*	*Eizel-Din, M.A., Bui, M.D., Rutschmann, P., Failer, E., Grass, C., Kramer, K., Hussein, A.S. & Saghayroon-Elzein, A.*	*Wenka, T. & Schmidt, A.*
2D-H numerical simulation of dam-break flow on mobile bed with sudden enlargement (Proc. p. 569)	Resolving large bed roughness elements with an unstructured hexahedral grid (Proc. p. 377)	Reservoir sedimentation in the Demirköprü Dam, Turkey (Proc. p. 1125)	The simulation tool DredgeSim – Predicting dredging needs in 2- and 3-dimensional models to evaluate dredging strategies (Proc. p. 1639)
Iervolino, M., Leopardi, A., Soares-Frazão, S., Swartenbroekx, C. & Zech, Y.	*Olsen, N.R.B., Aberle, J. & Koll, Ka.*	*Kokpinar, M.A., Kumcu, Ş.Y., Altan-Sakarya, A.B. & Gogus, M.*	*Maerker, C. & Malcherek, A.*
Validating a simplified model for flood hazard downstream levees (Proc. p. 591)	Bed roughness at high bed shear in open channels and pressurized pipes (Proc. p. 385)	Influence of pumped storage operation on flow conditions near intake/outlet structures: in situ measurement using ADCP (Proc. p. 1139)	Uncertainty study of data-based models of pollutant transport in rivers (Proc. p. 1759)
Paquier, A. & Béraud, C.	*Matoušek, V. & Krupička, J.*	*Müller, M., De Cesare, G. & Schleiss, A.J.*	*Piotrowski, A.P., Rowinski, P.M. & Napiorkowski, J.J.*
Shallow-water model with porosity: sensitivity analysis to head losses and porosity distribution (Proc. p. 613)	Downstream-migrating antidunes in sand, gravel and sand-gravel mixtures (Proc. p. 393)	Experiments on sedimentation in wide reservoirs and erosion following dam removal (Proc. p. 1147)	Determining surface and hyporheic retention in the Yarqon River, Israel (Proc. p. 1767)
Velickovic, M., van Emelen, S., Zech, Y. & Soares-Frazão, S.	*Núñez-González, F. & Martín-Vide, J.P.*	*de Villiers, G., Kleinhans, M.G., van Breemen, D.M.O., Postma, G. & Hauber, E.*	*Zaramella, M., Bottacin-Busolin, A., Musner, T. & Marion, A.*
Unsteady flow in a channel with large scale bank roughness (Proc. p. 621)	The flow structure in the tail of a lock-exchange gravity current with a large volume of release propagating over dunes (Proc. p. 401)	Geomorphic response of rivers below dams by sediment replenishment technique (Proc. p. 1155)	Retention of dye tracer in side basins exchanging with subcritical and supercritical flows (Proc. p. 1775)
Meile, T., Boillat, J.-L. & Schleiss, A.J.	*Tokyay, T. & Constantinescu, G.*	*Kantoush, S.A., Sumi, T. & Kubota, A.*	*Wang, T., Ghannadi, S.K., & Chu, V.H.*

Posters Topic A

Description of the idealized bed roughness effects on tracer transport in water flumes by applying the strange attractor multifractal analysis (Proc. p. 91)

Jimenez-Hornero, F.J., Gutierrez de Rave, E., Vanwalleghem, T., Giraldez, J.V., Jimenez-Hornero, J.E. & Laguna A.M.

Depth-averaged 2D models with effects of secondary currents for computation of flow at a channel confluence (Proc. p. 137)

Dinh Thanh, M., Kimura, I., Shimizu, Y. & Hosoda, T.

Two dimensional analysis of flow patterns and dispersion in meandering channels (Proc. p. 145)

Seo, I.W. & Park, S.W.

Turbulent flow in the scour hole downstream of a sluice gate: erosion induced by Görtler vortices (Proc. p. 195)

Rodriguez, B. & Escauriaza, C.

Flow visualization of mean and coherent flow structures around T-type and L-type groynes (Proc. p. 203)

Kadota, A., Suzuki, K. & Kojima, E.

Comparisons of various CFD models for computing river flows focusing on secondary currents (Proc. p. 219)

Yahata, E., Kimura, I., Iwasaki, T., Shimizu, Y. & Nelson, J.M.

Influence of vegetation to boundary shear stress in open channel for overbank flow (Proc. p. 285)

Terrier, B., Robinson, S., Shiono, K., Paquier, A. & Ishigaki, T.

Flow resistance of vegetated weir-like obstacles during high water stages (Proc. p. 293)

Ali, S. & Uijttewaal, W.S.J.

Influence of macro-rough banks on steady flow in a channel (Proc. p. 343)

Meile, T., Boillat, J.-L. & Schleiss, A.J.

Study of flow resistance in open channels (Proc. p. 353)

Yang, S., Hu, J., Guo, Y.K., Li, D. & Wang, X.

Uncertainty in design water levels due to uncertain bed form roughness in the river Rhine (Proc. p. 359)

Warmink, J.J., Booij, M.J., Hulscher, S.J.M.H. & van der Klis, H.

Posters Topic A

Lagrangian block hydrodynamics of macro resistance in a river-flow model (Proc. p. 419)

Tan, L.W. & Chu, V.H.

Three-dimensional modelling of a very large river; the Río Paraná (Proc. p. 409)

Sandbach, S.D., Hardy, R.J., Lane, S.N., Parsons, D.R., Best, J.L., Ashworth, P.J., Reesink, A.J.H., Amsler, M.L., Szupiany, R.N., Nicholas, A.P., Orfeo, O. & Sambrook Smith, G.H.

Two dimensional modeling of dam-break flows (Proc. p. 555)

Tahershamsi, A., Hessaroeyeh, M.G. & Namin, M.M.

GMUSTA method for numerical simulation of dam break flow on mobile bed (Proc. p. 577)

Altinakar, M.S., Evangelista, S. & Leopardi, A.

Comparison among different entrainment/deposition functions in the simulation of a 1D dam-break (Proc. p. 585)

Iervolino, M., Pontillo, M. & Di Cristo, C.

A synthetic method for assessing small dams flood wave (Proc. p. 631)

Grimaldi, S. & Poggi, D.

The flow and turbulence structure at a rectangular bridge pier with a low angle of attack (Proc. p. 681)

Chang, W.Y., Constantinescu, G., Miyawaki, S., Tsai, W.F. & Lien, H.C.

3D turbulent flow field at square pier in a gravel scour hole (Proc. p. 691)

Diab, R., Zanke, U. & Link, O.

One- and three-dimensional modeling of surge generated during operation of the hydro-power plants Mühlbach and Maiermühle in Landsberg on the Lech River (Proc. p. 699)

Carvajal, E., Huber, R., Geiger, F. & Rutschmann, P.

Posters Topic B

Suspended sediment estimation of Ekbatan reservoir sub basin using Adaptive Neuro-Fuzzy Inference Systems (ANFIS), Artificial Neural Networks (ANN), and sediment rating curves (SRC) (Proc. p. 807)
Asadiani Yekta, A.H., Marsooli, R. & Soltani, F.

The effect of riverbed structure on bed load transport in mountain streams (Proc. p. 863)
Zhang, K., Wang, Z.-Y. & Liu, L.

Analysis of multibeam echo sounding data on bed forms near the Walsoorden sandbar, a first phase in the subtidal habitat classification for the Western Scheldt (Proc. p. 921)
Plancke, Y.M.G., Vos, G.R. & Ysebaert, T.

Channel bed adjustment of a large sand-gravel bed river to an intermitted sediment sink (Proc. p. 937)
Vetter, T.

Numerical modeling of sediment transport in the Danube River: uniform vs. non-uniform formulation (Proc. p. 977)
Tritthart, M., Schober, B., Liedermann, M. & Habersack, H.

Incipient meandering and self-formed floodplains in experiments (Proc. p. 1019)
van Dijk, W.M., van de Lageweg, W.I., Hoendervoogt, R. & Kleinhans, M.G.

Validation of a non-linear reduced hydrodynamic model for curved open-channel flow (Proc. p. 1049)
Ottevanger, W., Uijttewaal, W.S.J. & Blanckaert, K.

Intercomparison of three morphodynamic models for the Lower Yellow River (Proc. p. 1085)
Xia, J.Q., Wang, Z.B., van Maren, B., Zhou, J.J. & Wu, B.S.

Trap efficiency of a forebay in a low mountain range (Proc. p. 1111)
Teschke, U.

Numerical modeling of sedimentation in the Sefid-Rood reservoir, Iran (Proc. p. 1131)
Mohammadnezhad, B.A., Mohammadian, M. & Mohammadian, V.

Impacts of sediment flushing on channel evolution and morphological processes: Case study of the Kurobe River, Japan (Proc. p. 1165)
Kantoush, S.A., Sumi, T., Suzuki, T. & Murasaki, M.

Downstream scour of combined flow over weirs and below gates (Proc. p. 1201)
Dehghani, A.A., Bashiri, H. & Dehghani, N.

Posters Topic B

Substitution of natural river bed material by artificial granulate in physical models for bridge pier scour investigations (Proc. p. 1215)
Meyering, H. & Ettmer, B.

The influence of a bed load bearing tributary on the water level underneath a run-of river plant (Proc. p. 1247)
Knoblauch, H., Feldbacher, R., Sindelar, C. & Gostner, R.

Experimental investigation of local half-cone scouring against dam (Proc. p. 1267)
Meshkati Shahmirzadi, M.E., Dehghani, A.A., Sumi, T., Naser, Gh. & Ahadpour, A.

A method to estimate failure plane angle and tension crack depth (Proc. p. 1293)
Amiri-Tokaldany, E., Dovoodi, M.H., Darby, S.E. & Taghavi, M.

Modeling of near-bank flow velocities during flow events as basis for developing bank erosion equations (Proc. p. 1301)
Klösch, M., Tritthart, M. & Habersack, H.

Modeling composite river bank erosion in an alluvial river bend (Proc. p. 1315)
Karmaker, T. & Dutta, S.

Response of technical-biological bank protection to ship-generated wave actions - first results (Proc. p. 1339)
De Roo, S. & Troch, P.

Experimental study on bendway weirs (Proc. p. 1347)
Shafai Bejestan, M., Jarrah zade, F., Ramesh, S. & Mashkoornia, H.

A new measure for riverbank protection in braided channels with dramatic change of discharge (Proc. p. 1353)
Hsu, S.M. & Huang, C.

Posters Topic C

Flood risk attribution to river defences (Proc. p. 1437)
Roca, M. & Glasgow, G.

Towards management and regulation of gravel mining in urban areas: application of an optimization/morphological model to Maipo river (Proc. p. 1443)
Godoy, C., Gatica, C., Niño, Y. & McPhee, J.

An approach to simulate interstitial processes in river beds to meet biological requirements (Proc. p. 1495)
Noack, M. & Wieprecht, S.

Hydro-sedimentology and mitigation measures of the stream diversion of "Arroyo Corrales", Uruguay (Proc. p. 1503)
Teixeira, L., López, G., Chreties, C. & Pairet, R.L.

Impact of the flush discharge from a dam on the biotic and abiotic river environment (Proc. p. 1511)
Tsubaki, R., Kawahara, Y., Nakadoi, Y., Iwakokoe, Y. & Yoshitake, H.

Integration of knowledge in river restoration (Proc. p. 1517)
van Slobbe, E., Jüpner, R., Frey, W., Meiners, G., Müller, F. & Jiggins, J.

Numerical investigations of free surface flow in a channel with a long contraction (Proc. p. 1567)
Bihs, H.

3D layer-integrated modelling of flow and sediment transport through a river regulated reservoir (Proc. p. 1573)
Faghihirad, S., Lin, B. & Falconer, R. A.

Simulating the impact of medium and large diversions on the hydrodynamics in the lower Mississippi River Delta
Karadogan, E. & Willson, C.S.

Strategies to overcome the possibly restricted utilisation of fairways due to climate changes (Proc. p. 1647)
Wurms, S., Schröder, P.M., Weichert, R.B. & Wassermann, S.

River Rhine - hydraulic and ship dynamic modelling (Proc. p. 1655)
Zentgraf, R. & Dettmann, T.

Posters Topic C

Experimental investigation on the sediment movement in the vicinity of a cylindrical bridge pier (Proc. p. 1701)
Pfleger, F., Rapp, Ch. & Manhart, M.

Airborne hydromapping area-wide surveying of shallow water areas (Proc. p. 1709)
Steinbacher, F., Pfennigbauer, M. & Aufleger, M.