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HydroPredict'2008

CONFERENCE PROGRAMME

International Interdisciplinary Conference on
Predictions for Hydrology, Ecology, and Water Resources Management:
Using Data and Models to Benefit Society

15–18 September 2008
Prague, Czech Republic

The following sessions are distinguished:

THEME: Processes and Modelling

A Catchment Modelling; Ungauged Catchments (PUBS)

B Accounting for Uncertainty

C1 Ecohydrology: Role of vegetation in hydrological processes

C2 Ecohydrology: Ecohydrological Modelling

D Linking Atmospheric and Hydrological Processes

E Processes in the Unsaturated Zone

F Surface Water Quality, Thermal Load and Sediments

G Coastal Groundwater Systems and Groundwater Quality

H Interaction between Surface and Groundwater Systems; Groundwater Modelling

I Integrated Monitoring, Modelling, and Prediction

THEME: Predictions, Forecasting

X1 Predictions: Flood Forecasting

X2 Predictions: Runoff Forecasting

THEME: Pressures on Water Resource Systems

Y1 Climate Change Impacts

Y2 Impacts of Land Use on Water Resources

Y3 Management of Groundwater and Surface Water

HydroPredict2008 Conference Programme

Overview: Monday-Thursday, 15-18 September 2008

Sun 14 Sep		16.00-20.00 Registration	
			18.00-20.00 Welcome, Get Together

Mon 15 Sep	8.30 - 9.00	9.00 - 10.00	10.00 - 10.30	10.30 - 12.30	12.30 - 13.45	13.45 - 15.30	15.30 - 16.00	16.00 - 17.00	17.00 - 18.30
	Open Ing	Session A		Session A		Session A and B		Session B	Plenary visit to posters Coffee, snacks-beer-wine
	Posters on display for poster sessions block 1:								

Tue 16 Sep	8.30-10.30	10.30 - 11.00	11.00 - 12.15	12.30 - 13.45	13.45 - 15.30	15.30 - 16.00	16.00-16.45		18.00 - 22.00
	Plenary presentation		Session C 1		Session C2		Session D		Conference Dinner
			Session X1		Session X1/X2		Session X2		
	Poster session block 1: continuation till the afternoon coffee break								

Wed 17 Sep	8.30-10.00	10.00 - 10.30	10.30 - 12.15	12.30 - 13.45	13.45 - 15.30	15.30 - 16.00	16.00 - 16.45	17.00 - 18.30
	Plenary presentation		Session E		Session E and F		Session F and G	Plenary visit to posters Coffee, snacks-beer-wine
			Session Y1/Y2		Session Y2/Y3		Session Y3	
	Posters on display for poster sessions block 2:							

Thu 18 Sep	8.30-10.30	10.30 - 11.00	11.00-12.30	12.30 - 13.45	13.45-16.00	16.00-16.30
	Session H		Session H		Session H/I	**Closure**
	Poster session block 2: continuation					

Regular oral presentations: 15 minutes (suggested 11 + 4 min discussion/questions)
Invited oral presentations: 30 minutes (suggested 25 + 5 min discussion/questions)

is coffee break is lunch

Conference Programme

Sunday, September 14

Registration at the venue (*Olympic Tristar Hotel*), 16.00-20.00 hours

Welcome, Get Together, at the *Olympic Hotel*, 18.00-20.00 hours

Note that is required to register before **Welcome, Get Together !**

Monday, September 15

Registration, from 7.30 hours

Authors of the entire day are requested to hand in their USB memory stick or CD-ROM with oral presentation at the registration desk before 8.30 hours, or preferably Sunday afternoon. Thank you!

Only plenary presentations during this entire day

Opening of the Conference

8.30-9.00 hours Welcome on behalf of the Organizers and IAHS

Processes and Modelling:
Session A, Catchment Modelling; Ungauged Catchments (PUBS)

Chairpersons: Andreas Schumann (Germany), **chairs 1**

9.00-9.30 H.-P.Nachtnebel (**invited**)
Runoff prediction at different modelling scales (p.11)
9.30-10.00 S.Wagner, H.Kunstmann, A.Bardossy (**invited**)
Propagation of precipitation uncertainties in distributed water balance assessments of a data sparse semi arid environment

10.00-10.30 Coffee break

Processes and Modelling:
Session A, Catchment Modelling; Ungauged Catchments (PUBS)

Chairpersons: Jan Seibert (Sweden), Hans-Peter Nachtnebel (Austria) , **chairs 2**

10.30-11.00 J.Seibert **(invited)**
Gauging the ungauged basin: the information content of limited field measurements
11.00-11.30 S.Uhlenbrook, I.Masih, S.Maskey, M.D.Ahmad **(invited)**
Estimating ungauged stream flows based on model regionalization - Examples from the mountainous, semi-arid Karkheh River Basin, Iran (p.7) (presented by Shreedhar Maskey, IHE Delft)
11.30-11.45 A.A.Sorman, A.Sensoy, E.Pekkan, A.U.Sorman
Modelling snowmelt runoff process using HBV and SRM models in the eastern part of Turkey
11.45-12.00 H.C.Winsemius, B.Schaefli, H.H.G.Savenije, W.G.M.Bastiaanssen
Modelling of a scarcely gauged basin by optimal use of old ground data and new remotely sensed data
12.00-12.15 M.Yilmaz, Z.Akyurek, A.U.Sorman
Integration of a physical backscatter model and basin indices for estimation of soil surface roughness
12.15-12.30 W.J.C.Meynink
A Top Down model for the estimation of ungauged catchment yield

12.30-13.45 Lunch

Chairpersons: Mary Hill (USA), Harald Kunstmann (Germany) , **chairs 3**

Invited presentation
13.45-14.15 Vit Klemes (Canada) **(invited)**
Political pressures in water resources management: Do they influence predictions?

Processes and Modelling:
Session B, Accounting for Uncertainty
Chairpersons: Mary Hill (USA), Harald Kunstmann (Germany) , **chairs 3**

14.15-14.45 M.C.Hill, E.Poeter, L.Foglia **(invited)**
Using a weather analogy to understand how to communicate ground-water model uncertainty
14.45-15.00 R.M.Argent, J.M.Blackmore, A.Arthington, N.Marsh, J.Rahman, K.K.Yum
An architecture to support decision making in catchment eco-hydrology
15.00-15.15 M.Rode, G.Wenk, D.Balin
Impact of point rainfall data uncertainties on parameter and model output uncertainties of distributed hydrological models
15.15-15.30 H.Shbaita, D.Balin, M.Rode
Uncertainty analysis for choosing the best spatial data resolution of distributed process based rainfall-runoff models

15.30-16.00 Coffee break

Processes and Modelling:
Session B, Accounting for Uncertainty
Chairpersons: Harald Kunstmann (Germany), Mary Hill (USA) , **chairs 3**

16.00-16.15 A.Weerts, M.Werner, P.Reggiani
Quantifying and constraining uncertainty in operational flood forecasting: with examples/applications from different operational systems
16.15-16.30 J.Grundmann, G.H.Schmitz
Impact of catchment size and rainfall intensity on uncertainty in distributed rainfall-runoff modelling
16.30-16.45 I.Meyer, A.Vogelbacher
Determination and representation of flood forecast uncertainty
16.45-17.00 R.Rojas, A.Dassargues, O.Batelaan, L.Feyen Combining generalized likelihood uncertainty estimation (GLUE) and Bayesian model averaging (BMA) to account for conceptual model uncertainty in groundwater modelling

Poster Session Block 1, plenary visit to posters, 17.00-18.30 hours (+beer or wine)

Posters to be installed during the morning of Monday, September 15.

Processes and modelling:
Poster session A, Catchment Modelling; Ungauged Catchments (PUBS)
Poster session B, Accounting for Uncertainty
Poster session C1 Ecohydrology: Role of vegetation in hydrological processes
Poster session C2 Ecohydrology: Ecohydrological Modelling
Poster session D, Linking Atmospheric and Hydrological Processes

Predictions, Forecasting
Poster session X1, Predictions: Flood Forecasting
Poster session X2, Predictions: Runoff Forecasting

Tuesday, September 16

Registration Desk open from 8.00 hours

Authors of the entire day are requested to hand in their USB memory stick or CD-ROM with oral presentation at the registration desk during Monday. Thank you!

Lecture hall A

Plenary Presentation till 10:30

Chairpersons: Ed Sudicky (Canada), Andreas Schumann (Germany), **chairs 4**

8.30-9.00 J.Peters, N.E.C.Verhoest, R.Samson, B.De Baets **(invited)**
Uncertainty propagation in vegetation distribution models based on ensemble learning
9.00-9.30 S.V.Teegavarapu **(invited)**
Innovative spatial interpolation methods for estimation of missing precipitation records: Concepts and applications (p.79)
9.30-10.00 A.Schumann, J.Dietrich **(invited)**
Ensemble forecasts and Bayesian averaging to consider uncertainties in flood risk management (p.235)
10.00-10.30 H.Madsen, J.T.Sørensen **(invited)**
A general filtering framework for data assimilation in hydrological forecasting systems

10.30-11.00 Coffee break

Lecture hall A, parallel

Processes and Modeling:

Session C1 Ecohydrology: Role of vegetation in hydrological processes

Chairpersons: Jason Kean (USA), Geoff Parkin (United Kingdom), **chairs 5**

11.00-11.15 S.G.Wallis, J.R.Manson
The influence of floodplain characteristics on longitudinal dispersion in a natural channel (p 61)
11.15-11.30 D.Di Nitto, P.Erftemeijer, J.van Beek, F.Zijl, J.G.Kairo, N.Koedam, F.Dahdouh-Guebas
Two-dimensional numerical modelling of the hydrochorous dispersal of mangrove propagules
11.30-11.45 D.J.Mould, M.C.Acreman, J.R.Thomson
Hydrological functioning of a restored wet grassland in southeast England
11.45-12.00 S.Sugio, Y.Ogawa
Prediction of vegetation change on sand bars in river channel (p.53)
12.00-12.15 K.Margóczi, J.Szanyi, M.Papp, E.Aradi
Groundwater dependence of vegetation types in south Hungarian Plain

Lecture hall B, parallel

Predictions, Forecasting:

Session X1, Predictions: Flood Forecasting

Chairpersons: Vit Klemes (Canada), Hubert Holzmann (Austria) , **chairs 6**

11.00-11.15 A.Ben Daoud, Ch.Obled, M.Lang, G.Bontron, E.Sauquet
A flood forecasting system based on probabilistic precipitation scenarios: performance

evaluation and sensitivity analysis to the re-analysis archives (p.207)
11.15-11.30 S.Loos, S.J.van Andel, A.H.Lobbrecht, R.K.Price
Anticipatory water management, decision support for real-time operational and long term strategic use of new meteorological forecast products in flood control (p.219)
11.30-11.45 T.Diomede, Ch.Marsigli, A.Montani, T.Paccagnella
A limited-area ensemble predicition system to drive flood forecasting chain (p.211)
11.45-12.00 B.Kahl, H-P.Nachtnebel, K.Schröter, M.Ostrowski, M.Gocht, D.Sempere
EWASE - Early Warning Systems Efficiency - Flood forecast reliability and efficiency analysis
12.00-12.15 J.Younis, J.Thielen, M-H.Ramos, F.Pappenberger
Ensemble-based hydrological forecasting via European flood alert system during the spring 2006 floods in Elbe River basin

12.30-13.45 Lunch

Lecture hall A, parallel

Processes and Modelling:

Session C2 Ecohydrology: Ecohydrological Modelling
Chairpersons: Stefan Krause (United Kingdom), Ramesh Teegavarapu (USA) , **chairs 7**

13.45-14.00 J.Conallin, J.K.Jensen, I.Jowett, E.Boegh, S.Pedersen
The development of a habitat suitability index modelling approach for small lowland stream under EU Water Framework Directive conditions
14.00-14.15 S.Benger, Y.Ruo Hong
Modelling the effects of reduced monsoonal flooding on the ecology of the Tonle Sap, Cambodia
14.15-14.30 M.Stewardson, A.Webb, R.Norris, S.Nichols
Evidenced-based model structure: The role of causal analysis in hydro-ecological modelling
14.30-14.45 M.Olsen, L.Troldborg, E.Boegh, J.Ch.Refsgaard
Tuning hydrological models for ecological modelling - improving simulations of low flows critical to stream ecology (p.45)
14.45-15.00 C.J.Stratford, N.P.McNamara, M.C.Acreman
Modelling the effect of peatland restoration on greenhouse gas emissions
15.00-15.15 Q.de Jong van Lier, J.C.van Dam, K.Metselaar
Modelling root water extraction under combined water and osmotic stress

Lecture hall B, parallel

Predictions, Forecasting:

Session X1, Predictions: Flood Forecasting
Chairpersons: Andreas Schumann (Germany), Pedro Restrepo (USA), **chairs 8**

13.45-14.00 R.Funke, G.Döding, Ch.Gattke
KISTERS Time-Series Management System and its integration into flood prediction and flood warning environments (p.215)
14.00-14.15 D.Marten, J.Ronsyn, K.Van Eerdenbrugh, P.Viaene
Floodforecasting in Flanders: A state-of-the-art system
14.15-14.30 K.Tanaka, K.Nakanishi, T.Kojiri
Numerical forecasting of flood events in small catchment in North Thailand
14.30-14.45 O.C.Saavedra Valeriano, T.Koie, K.Yang, D.Yang
A quantitative precipitation forecast-based real-time operation of a multi-reservoir system for flood management (p.231)

Predictions, Forecasting:

Session X2, Predictions: Runoff Forecasting

Chairpersons: Andreas Schumann (Germany), Pedro Restrepo (USA), **chairs 8**

14.45-15.00 D.Zanchettin, M.Tomasino, P.Traverso
Long-range forecast of seasonal Po River (Italy) discharges: a soft computing approach

15.00-15.15 R.Spolwind, F.Fröschl, K.Hebenstreit
Runoff forecasting in hydropower industry: A holistic approach through modular assembly (p.263)

15.15-15.30 P.Restrepo
Present and future directions of research in hydrologic prediction at the National Weather Service of the United States

15.30-16.00 Coffee break

Lecture hall A, parallel

Processes and Modelling:

Session D, Linking Atmospheric and Hydrological Processes

Chairpersons: Ramesh Teegavarapu (USA), Stefan Krause (United Kingdom), **chairs 7**

16.00-16.15 E.L.Wipfler, K.Metselaar, J.van Dam, S.J.Zwart, E.van Meijgaard, B.J.J.M.van den Hurk, R.A.Feddes
Modification and testing of the land surface scheme as adopted by the regional climate model RACMO

16.15-16.30 E.Gelati, H.Madsen, D.Rosbjerg
Reservoir optimisation using non-stationary runoff modelling conditioned on El Niño information

16.30-16.45 F.Keskin, T.Einfalt
Use of radar data for coupling of Mike11 with MM5 model for flood forecasting in Turkey

Lecture hall B, parallel

Predictions, Forecasting:

Session X2, Predictions: Runoff Forecasting

Chairpersons: Pedro Restrepo (USA), Andreas Schumann (Germany), **chairs 8**

16.00-16.15 G.B.B.Cardoso, D.F.Mouncunill, D.S.Reis Jn., E.S.P.R.Martins
Short term reservoir's inflow forecasts based upon multi-model precipitation forecasts: The case of the Jaguaribe River basin, Brazil

16.15-16.30 P.Machhkahand
Coupling of modular linear and non-linear regression models devising a unit multi-linear regression model for flow prediction at Alaknanda hydro-electric power intake

16.30-16.45 G.Poveda, L.F.Carvajal, A.Ochoa, J.I.Vèlez
Assessment of diverse monthly mean streamflow forecasting models involving macro-climatic indices and hydrologic persistence in Colombia

18.00-22.00 Conference Dinner

Wednesday, September 17

Registration Desk open from 8.00 hours

Authors of the entire day are requested to hand in their USB memory stick or CD-ROM with oral presentation at the registration desk during Tuesday. Thank you!

Lecture hall A

Plenary Presentation till 10:00

Chairpersons: Hans-Peter Nachtnebel (Austria), Jan Seibert (Sweden), **chairs 9**

8.30-9.00 G.Parkin **(invited)**
Influence of scale on modelling groundwater recharge through heterogeneous Quaternary drift deposits
9.00-9.30 J.Kean **(invited)**
A model-based method for monitoring flash-floods and debris flows in recently burned watersheds
9.30-10.00 J.Solc **(invited)**
Implications of hydrological predictions for decision making – Perspective of practitioner

10.00-10.30 Coffee break

Lecture hall A, parallel

Processes and Modelling:

Session E, Processes in the Unsaturated Zone

Chairpersons: Geoff Parkin (United Kingdom), Jarda Solc (USA), **chairs 10**

10.30-10.45 M.Doubkova, S.Hasenauer, W.Wagner, D.Sabel, C.Pathe, V.Naemi
High resolution soil moisture from active radar instruments over Europe (p.89)
10.45-11.00 P.Matgen, L.Pfister, S.Heitz, H.H.G.Savenije, F.Fenicia
Learning from model deficiencies: soil moisture recordings as a means for improved hydrological modelling
11.00-11.15 D.Lévesque
Modelling summer runoff on small hilly watersheds covered with thin soils (p.97)
11.15-11.30 K.Ziogas, V.Hrissanthou
Application of SWAT to Kosynthos River basin (p.103)
11.30-11.45 I.Joris, J.Bronders, B.Van der Grift, G.Janssen, P.Seuntjens
An integrated subsurface transport modelling approach to assess regional water contamination of Cd and Zn by historic smelter emissions: unsaturated zone modelling (p.93)

Processes and Modelling:

Session F, Surface Water Quality, Thermal Load and Sediments

Chairpersons: Geoff Parkin (United Kingdom), Jarda Solc (USA), **chairs 10**

11.45-12.00 S.G.Wallis
Some exploration of hidden value in tracer experiments for model calibration and validation (p.135)
12.00-12.15 Y.Van der Velde, J.Rozemeijer, G.H.De Rooij
Catchment scale traveltime dynamics and its relation to surface water quality

Lecture hall B, parallel

Pressures on Water Resources Systems:

Session Y1, Climate Change Impacts

Chairpersons: Hans-Peter Nachtnebel (Austria), Olga Vigiak (Australia), **chairs 11**

10.30-10.45 A.Rango, J.Martinec
Predictions for snow cover, glaciers, and runoff in a changing climate (p.277)

10.45-11.00 J.Valdès, J.Cañón, F.Domínguez
Bringing global climate scenarios to water managers arena: a case study

11.00-11.15 W.Mauser, T.Marke, S.Stöber
Climate change and water resources: Scenarios of low-flow conditions in the upper Danube River basin

11.15-11.30 H.Holzmann, H.Formayer, T.Lehmann
Climate change impact on the hydrological regime of an Austrian basin

Pressures on Water Resources Systems:

Session Y2, Impacts of Land Use on Water Resources

Chairpersons: Hans-Peter Nachtnebel (Austria), Olga Vigiak (Australia), **chairs 11**

11.30-11.45 L.van Wee, A.Biesheuvel, M.Bonte
Prediction of agro-hydrological effects of a large brackish lake at Wieringen, The Netherlands, with integrated modelling of water and solute transport in variably satured soils (p.319)

11.45-12.00 A.Richmann, H.Gömann, P.Kreins, K.Seidel, U.Hirt, B.Tetzlaff & F.Wendland
Future developments of nitrogen balances and suitable combinations of measures to reduce diffuse nitrogen leaching in agriculture in the Weser River basin (p.303)

12.00-12.15 A.von Boetticher, H.T Li, W.Kinzelbach
SimSalin: a tool for water resources management in an agricultural basin

12.30-13.45 Lunch

Lecture hall A, parallel

Processes and Modelling:

Session F, Surface Water Quality, Thermal Load and Sediments

Chairpersons: Jason Kean (USA), Biswa Bhattacharya (the Netherlands), **chairs 12**

13.45-14.00 O.Link, A.Espinoza, J.Donoso, A.Stehr, A.García
Using field data and numerical modelling to predict and understand spatio-temporal stream temperature distribution

14.00-14.15 C.Noss, T.Salzmann, I.Storchenegger
Tracer measurements and modelling of longitudinal dispersion - a new approach for the evaluation of renaturation projects and the prediction of contaminant transport at river flows (p.119)

14.15-14.30 D.Tomberlin, N.Vlassis
Choosing among costly water quality monitoring schemes: optimal information gathering in the management of surface erosion (p.127)

14.30-14.45 G.Manache, C.S.Melching
Effect of the wastewater treatment levels on the sensitivity of a water quality model to uncertain model input parameters (p.115)

14.45-15.00 G.Hall
The use of modelling in the reduction of flood risk for the town of Dolgellau, Wales (p.111)

15.00-15.15 B.Bhattacharya
Methods and their limitations in predicting sediment loads in rivers

Lecture hall B, parallel

Pressures on Water Resources Systems:

Session Y2, Impacts of Land Use on Water Resources

Chairpersons: Henrik Madsen (Denmark), Graham Fogg (USA), **chairs 13**

13.45-14.00 T.Nakayama, T.Fujita, Y.Geng, S.Hashimoto
Simulation of water resource and its relation to urban activity in Dalian City, Northern China (p.295)
14.00-14.15 A.van Loon, P.Schot, J.Griffioen, M.Bierkens, O.Batelaan, M.Wassen
1000 years of human impact on the hydrology of a fen valley; a modelling study
14.15-14.30 P.Selcuk, S.Elci
Effects of basin activities and landuse on water quality trends in Tahtali basin
14.30-14.45 O.Vigiak, A.Ridley, J.Whitford, L.Newham, D.J.Rattray, A.Melland
Hydrological scaling for predicting catchment response to land management changes (p.315)

Pressures on Water Resources Systems:

Session Y3, Management of Groundwater and Surface Water

Chairpersons: Henrik Madsen (Denmark), Graham Fogg (USA), **chairs 13**

14.45-15.00 F.Ruden
Neural networking approach for predicting future service levels of water projects
15.00-15.15 A.Sharma, Ch.Huebner,W.Ostrowski
Inflow prediction and optimal operation of reservoir system during flood by the combined application of ANN and different optimization techniques (p.371)
15.15-15.30 F.Cucchi, G.Franceschini, F.Treu, L.Zini
Hydrogeology and water resource management of the Friuli Venezia Giulia Plain alluvial aquifers, north eastern Italy (p.337)

15.30-16.00 Coffee break

Lecture hall A, parallel

Processes and Modelling:

Session G, Coastal Groundwater Systems and Groundwater Quality

Chairpersons: Nada Rapantova (Czech Republic), Mary Hill (USA), **chairs 14**

16.00-16.15 W.Gossel, A.Sefelnasr
Retrospective and predictive modelling of the saltwater intrusion in the northern Nubian Aquifer System (eastern Sahara)
16.15-16.30 M.Konz, P.Ackerer, A.Younes, P.Huggenberger, E.Zechner
New laboratory-scale 2D- density driven flow experiments to benchmark numerical models
16.30-16.45 C.Vink
Efficient prediction of nitrate, sulphate and total hardness concentrations in raw water with a flow path approach (p.153)

Lecture hall B, parallel

Pressures on Water Resources Systems:

Session Y3, Management of Groundwater and Surface Water

Chairpersons: Graham Fogg (USA), Henrik Madsen (Denmark), **chairs 13**

16.00-16.15 G.Bausei, H.-J.Hendricks Franssen, W.Kinzelbach, H.-P.Kaiser
Hierarchical optimal control of a groundwater facility
16.15-16.30 A.K.Hansen, H.Madsen, P.Bauer-Gottwein, D.Rosbjerg, J.Gudbjerg, D.Seifert
Well field management optimisation
16.30-16.45 A.J.Adeloye, A.A.Shaki
Modelling and optimisation of the Murzuq Basin aquifer system in Libya for effective water resources management (p.325)

Poster Session Block 2, plenary visit to posters, 17.00-18.30 hours (+beer or wine)

Posters to be installed during the morning of Wednesday, September 17.

Processes and modelling:
Session F, Surface Water Quality, Thermal Load and Sediments
Session G, Coastal Groundwater Systems and Groundwater Quality
Session H, Interaction between Surface and Groundwater Systems; Groundwater Modelling

Pressures on Water Resources Systems:
Session Y1, Climate Change Impacts
Session Y2, Impacts of Land Use on Water Resources
Session Y3, Management of Groundwater and Surface Water

Thursday, September 18

Registration Desk open from 8.00 hours

Authors of the entire day are requested to hand in their USB memory stick or CD-ROM with oral presentation at the registration desk during Wednesday. Thank you!

Only plenary presentations during this entire day

Chairpersons: Jan Fleckenstein (Germany), Ed Sudicky (Canada), **chairs 15**

8.30-9.00 J.Schaake **(invited, from session B, Day 1)**
Science issues for the hydrologic ensemble prediction experiment (HEPEX)

Processes and Modelling:
Session H, Interaction between Surface and Groundwater Systems; Groundwater Modelling
Chairpersons: Jan Fleckenstein (Germany), Ed Sudicky (Canada), **chairs 15**

9.00- 9.30 G.E.Fogg, J.H.Fleckenstein, R.G.Niswonger, M.C.Rains **(invited)**
New paradigms for groundwater and surface water interaction
9.30- 10.00 J.H.Fleckenstein S.Frei, S.Kollet, R.Maxwell, R.G.Niswonger **(invited)**
Dynamics and patterns of river-aquifer exchange - What kind of predictions do we need?
10.00- 10.30 E.A.Sudicky, D.A.Brookfiled, Y.-J.Park, C.Brewster Jr **(invited)**
Simulation of thermal stream loadings using a fully-integrated surface/subsurface modelling framework

10.30-11.00 Coffee break

Processes and Modelling:
Session H, Interaction between Surface and Groundwater Systems; Groundwater Modelling
Chairpersons: Jan Fleckenstein (Germany), Ed Sudicky (Canada), **chairs 15**

11.00-11.15 H.-J.Hendricks Franssen, U.Kuhlmann, H.P.Kaiser, F.Stauffer, W.Kinzelbach

Fast and improved flow and transport predictions in real-time with the Ensemble Kalman Filter for the gravel aquifer in Zürich (Switzerland)

11.15.-11.30 S.Krause, L.Heathwaite, A.Binley, D.Kaeser
Nutrient transformation in the hyporheic zone - A panacea for river restauration or a ticking time bomb

11.30-11.45 P.Brunner, C.T.Simmons, P.G.Cook
A method to assess the state of disconnection between surface water and groundwater

11.45-12.00 M.Van Camp, K.Walraevens
Importance of conceptual model adaptation during the development of a predictive groundwater flow model of the Deep Basement Aquifer in Flanders (Belgium) (p.191)

12.00-12.15 A.G.Bobba, P.A.Chambers, B.G.Krishnappan
Groundwater-surface water interactions in the flood plain

12.15-12.30 I.Jolly, D.Rassam, M.Gilfedder, M.Stenson, T.Pickett, J.Turner, T.Barr, A.Werner, M.Silburn, Gerard McMahon, C.Johansen, M.Reid, X.Cheng, B.Christy, A.Weeks, M.Littleboy
Predicting the interactions between rivers and groundwater pumping (p.171)

12.30-13.45 Lunch

Processes and Modelling:
Session H, Interaction between Surface and Groundwater Systems; Groundwater Modelling
Chairpersons: Graham Fogg (USA), John Schaake (USA), **chairs 16**

13.45-14.00 A.Loukas, N.Mylopoulos, K.Kokkinos, P.Sidiropoulos, L.Vasiliades, A.Liakopoulos
The effect of spatial discretization in integrated modelling of surface and groundwater hydrology through OpenMI

14.00-14.15 B.Wiese, G.Nützmann
Bank filtration induces transient interface conductivity in time and space (p.201)

14.15-14.30 A.Šoltész, D.Baroková
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Real-time monitoring and forecasting for operational groundwater management

15.15-15.30 T.S.Melis, D.J.Topping
Adaptive management of the Colorado River in Grand Canyon: Integrating long term monitoring with modelling to support river ecosystem management below Glen Canyon Dam, Arizona, USA

15.30-15.45 M.J.M.Kuijper, W.Berendrecht, W.Borren, P.de Louw
Integrated modelling and monitoring to evaluate river basin management strategies

15.45-16.00 A.Sensoy, A.A.Sorman, F.Keskin, A.U.Sorman
Modelling and predicting daily discharges in Yuvacik Dam Reservoir using two different models

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184 X.Chen: Application of Liuxihe model for small basin flash flood forecasting

224 L.Foglia, M.C.Hill: Use of traditional and unusual statistics in the calibration of a hydrological model for the TMDL development in the Calleguas Creek Watershed

250 K.Koçak, K.Şentürk: Determination of water potential in ungauged basins

304 J.B.D.de Paiva, E.M.C.D.de Paiva, R.M.Paranhos, K.S.Carvalho, A.Meller L.H.Rosa: Relations between the mean, maximum and minimum observed discharges in small catchments

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106 C.Oyarzun, R.Godoy, N.Verhoest: Interactions between hydrology and biogeochemical cycles of native vegetated mountain watersheds under different management, southern Chile (p.49)

167 C.-N.Chen, Ch.-H.Tsai, M.-H.Wu, Ch.-T.Tsai: Simulation for distribution of fish habitat in the river

205 B.Jaroš, J.Skálová: Impact of management on groundwater level in wetland

223 E.Boegh, M.Olsen, J.Conallin, M.Madsen: Remote sensing based vegetation maps for predicting shade effects on water temperature and habitat suitability in small lowland streams

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