

Hydro Predict'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 -	10.00 -	10.30 -	12.30 -	13.45 -	15.30 -	16.00 -	17.00 -
	9.00	10.00	10.30	12.30	13.45	15.30	16.00	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 -	12.30 -	13.45 -	15.30 -	16.00- 16.45	18.00 -
	Plenary presentation	11.00	12.15	13.45	15.30	16.00	16.45	22.00
		☉	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 -	12.30 -	13.45 -	15.30 -	16.00 -	17.00 -
	10.30	12.15	13.45	15.30	16.00	16.45	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 -	11.00-12.30	12.30 -	13.45-16.00	16.00- 16.30
	11.00	13.45				
	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.Margóczy, 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.Diomedede, Ch.Marsigli, A.Montani, T.Paccagnella
A limited-area ensemble prediction 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 Jr., 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.Machhahand

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.Vélez

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 saturated 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.Shot, 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.Ratray, 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.Brookfield, 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.Kaesler
Nutrient transformation in the hyporheic zone - A panacea for river restoration 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
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- 15.15-15.30 T.S.Melis, D.J.Topping
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- 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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