

# Nordic Water 2014: "Nordic Hydrology Model" - linking science and practice

KTH Royal Institute of Technology, Stockholm, Sweden, 11-13 August 2014

Venue: Q-huset KTH, Adress: Osquidas väg 4, Stockholm

Monday 11/8		*student presentations
08:00	Registration	
<b>Room Q1</b>		
09:00-09:15	<b>Opening: Welcome to Nordic Water 2014</b>	
	<b>Keynote session 1: Water, energy and food / Groundwater urban and rural areas / Hydrology and hydrochemistry</b> <i>Chair: David Gustafsson</i>	
09:15-09:45	<b>Science- and knowledge-based water management in Denmark – linking science and practice (invited)</b> <i>Bjørn Kaare Jensen and Lisbeth Flindt Jørgensen</i>	
09:45-10:15	<b>Streamflow modelling experience in Estonia (invited)</b> <i>Alvina Reihan</i>	
10:15-10:30	<b>Challenges and opportunities of integral water management in Switzerland – Conclusions from the National Research Programme 61</b> <i>Manfred Stähli and Astrid Bjørnsen Gurung</i>	
10:30-11:00	Coffee break	
	<b>Room Q1</b>	<b>Room Q31</b>
	<b>Session: Groundwater in urban and rural areas - water and infrastructure interaction</b> <i>Chair: Elga Apsite</i>	<b>Session: Water, energy, food - water resources management in a wider perspective</b> <i>Chair: Diana Meilutyte-Lukauskiene</i>
11:00-11:15	<b>Serious conflicts in the use of groundwater and mineral resources</b> <i>Gert Knutsson, Staffan Michelson, and Bo Olofsson</i>	<b>Assessment of the hydrokinetic energy resources of the medium sized lowland rivers in Lithuania</b> <i>Petras Punys, Inga Adamonyte, Algis Kvarciejus, Erikas Martinaitis, and Gitana Vieciene</i>
11:15-11:30	<b>Mapping groundwater vulnerability in Denmark – Challenges and achievements of a mega-project</b> <i>Dirk-Ingmar Müller-Wohlfeil and Richard Thomsen</i>	<b>National and local predictions of hydropower impact on Swedish river flow</b> <i>Berit Arheimer and Göran Lindström</i>
11:30-11:45	<b>Urbanisation, water abstraction and climate adaption. Surface and ground water interaction in the Municipality of Odense?</b> <i>Gert Laursen and Johan Linderberg</i>	<b>Modeling hydropower potential shift with SWAT in North-Estonian rivers, considering future climate change</b> <i>*Ottar Tamm and Toomas Tamm</i>
11:45-12:00	<b>Subsurface dams for sustainable water resources development</b> <i>*Imran Ali Jamali, Bo Olofsson, and Ulla Mörtberg</i>	<b>The need for re-mineralization of drinking water after treatment with Reverse Osmosis</b> <i>Ingegerd Rosborg, Frantisek Kozisek, and Asher Brenner</i>
12:00-12:15	<b>Groundwater balance in hard rock terrains with limited soil cover: The importance of spatial data</b> <i>*Robert Earon and Bo Olofsson</i>	<b>Water scarcity and drought in Finland – status quo and future implications</b> <i>Olli-Matti Verta and Lauri Ahopelto</i>
12:15-12:30	<b>Environmental impacts on soil and water from a new highway section: Long-term resistivity results</b> <i>*Hedi Rasul, Robert Earon, and Bo Olofsson</i>	
12:30-13:30	Lunch break	
	<b>Room Q1</b>	<b>Room Q31</b>
	<b>Session: Water, energy, food (cont.) / Large scale water balance modelling</b> <i>Chair: Linus Zhang</i>	<b>Session: Hydrology and hydrochemistry - Links in surface and ground waters</b> <i>Chair: David Gustafsson</i>
13:30-13:45	<b>Modelling an Aquifer Thermal Energy Storage (ATES) system</b> <i>Nils-Otto Kitterød, Zerihun Kinfe Birhanu, Anne Kværnø, and Harald E. Krogstad</i>	<b>The resurrection of a biologically dead lake - monitoring and remedial measures</b> <i>Gunnar Jacks, Karel Miskovsky, Daniel Ragnvaldsson, and Anton Lundkvist</i>
13:45-14:00	<b>Effect of Groundwater Flow on Heat Exchange Efficiency of Geothermal Boreholes: Porous vs. Fractured Media</b> <i>*S. Emad Dehkordi, Bo Olofsson, and Robert A. Schincariol</i>	<b>Which factors have impacted the changes in the runoff of the Vienziemite river?</b> <i>Elga Apsite, Didzis Elferts, and Liga Klints</i>
14:00-14:15	<b>Management planning as a tool for water regime restoration in protected areas of Lithuania</b> <i>Zenonas Gulbinas</i>	<b>Analysis of floods on the Lielupe River</b> <i>*Liga Klints and Ilze Rudlapa</i>
14:15-14:30	<b>Regional groundwater model of Estonia and its hydrological developments</b> <i>Leo Vallner and Andreas Porman</i>	
14:30-14:45	<b>Hydrological feasibility of flood barriers to protect the Gothenburg (Sweden) during the 21st century - an initial assessment</b> <i>*Masoud Irannezhad, Ulf Moback, Lars Bergdahl, and Bjørn Kløve</i>	
14:45-16:00	Coffee break - poster session	
16:00-17:30	<b>General Assembly (Room Q31)</b>	
19:00-20:00	<b>Welcome reception (Room E-ljugården, E-huset, KTH)</b>	

<b>Room Q1</b>	
	<b>Keynote session 2: Climate change - impacts, adaptation, and resilience / Surface water in urban areas</b> <i>Chair: Dirk-Ingmar Müller-Wohlfeil</i>
09:00-09:30	<b>Stockholm and Lake Mälaren in a changing climate – an example of the future for Nordic hydrologists (invited)</b> <i>Sten Bergström</i>
09:30-09:45	<b>Adapting to future sea level rise and extreme precipitation in an expanding urban area</b> <i>Ulla Lyngs Ladekarl</i>
09:45-10:00	<b>Adapting to climate change: Regulation strategies during extreme flood in the Kokemäenjoki watershed, Finland</b> <i>Tanja Dubrovin, Kimmo Söderholm, Noora Veijalainen, Mika Marttunen, Mia Pihlajamäki, and Bertel Vehviläinen</i>
10:00-10:15	<b>Shifts in Timing of Spring Flood Discharge in Northern Finland Rivers: 1967-2011</b> <i>*Masoud Irannezhad, Hannu Marttila, and Bjørn Kløve</i>
10:15-10:30	<b>Long term variability of seasonal river runoff in Sweden in past, present and future climates</b> <i>*Kean Foster, Cintia Bertacchi Uvo, and Jonas Olsson</i>
10:30-11:00	<b>Coffee break</b>
<b>Room Q1</b>	
	<b>Session: Climate change - impacts, adaptation, and resilience</b> <i>Chair: Zenonas Gulbinas</i>
<b>Room Q31</b>	
	<b>Surface water in urban areas - design, risks and new solutions</b> <i>Chair: Tiia Pedusaar</i>
11:00-11:15	<b>Long-term changes in the ice regime of Latvia's rivers</b> <i>*Inese Latkovska, Didzis Elferts, and Elga Apsīte</i>
11:15-11:30	<b>Climate induced warming of Finnish and Swedish springs</b> <i>Pekka M. Rossi, Jussi Jyväsjarvi, Hannu Marttila, Jakob Nisell, Pertti Ala-aho, Birgitta Backman, Timo Muotka, and Bjørn Kløve</i>
11:30-11:45	<b>Climate change impacts on Lithuanian river water temperatures</b> <i>Aldona Jurgelenaite, Jurate Kriauciuniene, and Diana Meilutyte-Lukauskieniė</i>
11:45-12:00	<b>Impacts of Climate Change on Water Resources in Himalayan basins</b> <i>*Hong Li, Chong-Yu Xu, Stein Beldring, Yixing Yin, Matthias Huss, Hongliang Xu, and Sharad K. Jain</i>
12:00-12:15	<b>Long-term changes in the phenological observations of the Daugava ice regime and the impact of hydro power plants</b> <i>Elga Apsīte, Didzis Elferts, and Inese Latkovska</i>
12:15-12:30	<b>Dam safety assessment in a changing climate - from SRES to RCP emission scenarios</b> <i>Kristoffer Hallberg, Johan Andréasson, Jenny Axén-Mårtensson, Sten Bergström, Joel Dahné, Linda Nylén, and Elin Sjökvist</i>
12:30-13:30	<b>Lunch break</b>
13:30-17:30	<b>Guided hydrological walking tour in Stockholm</b> - Start outside entrance of Q-huset KTH 13:30
20:00	<b>Conference dinner</b> - Restaurant Mynchen, Söder Mälarstrand 65 (see separate map)

<b>Room Q1</b>	
<b>Keynote session 3: New approaches in water systems modelling and monitoring / Cold climate hydrology / Learning from uncertainty</b> <i>Chair: Kolbjørn Engeland</i>	
09:00-09:30	<b>Revitalizing ancient mythology in an Open Source framework to enhance innovation, interdisciplinarity and academia-industry cooperation (invited)</b> <i>Oddbjørn Bruland, Sjur Kolberg, and John F. Burkhart</i>
09:30-09:45	<b>Simulating the water balance under climate change in northern Mongolia</b> <i>Tobias Törnros and Lucas Menzel</i>
09:45-10:00	<b>Multidimensional flow measurement point-clouds:moving beyond transects.</b> <i>*Claude Flener, Leena Laamanen, Yunsheng Wang, and Petteri Alho</i>
10:00-10:15	<b>Radar-observed precipitation and high-resolution flood forecasting in Sweden</b> <i>Jonas Olsson, Peter Berg, Charlotta Pers, Lars Norin, and Lennart Simonsson</i>
10:15-10:30	<b>Investigation of flow structure over fluvial formations - A combined approach of remote sensing and CFD</b> <i>Elina Kasvi, Matti Vaaja, Petteri Alho, Claude Flener, Anttoni Jaakkola, Hannu Hyyppä, and Juha Hyyppä</i>
10:30-11:00	<b>Coffee break</b>
<b>Room Q1</b>	
<b>Session: New approaches in water systems modelling and monitoring</b> <i>Chair: Chong-Yu Xu</i>	
11:00-11:15	<b>Groundwater – surface water interactions in esker aquifer determined with fully integrated groundwater flow modeling and novel field methods</b> <i>*Pertti Ala-aho, Pekka M. Rossi, and Bjørn Kløve</i>
11:15-11:30	<b>Regional versus local calibration of the S-HYPE model for prediction at ungauged sites</b> <i>Johan Strömqvist and Göran Lindström</i>
11:30-11:45	<b>Lake water levels for calibration and updating of the S-HYPE model</b> <i>Göran Lindström</i>
11:45-12:00	<b>Differences in Water balance between grassland and forest watersheds using long term data and two different models</b> <i>*Mir Hadi Madani, Per-Erik Jansson, Magnus Svensson, and David Gustafsson</i>
12:00-12:15	<b>Hydrological Response to Land Use Changes at a Small Watershed in the Hilly and Gully Area of the Loess Plateau</b> <i>*Jiechun Han, Jianzhi Niu, and Zhongbao Xin</i>
12:15-12:30	<b>Relationships Between Individual Small Tree Canopy Structure And Rainfall Interception</b> <i>Yuli Zhao, Jianzhi Niu, Baoyuan Xie, Xiongwen Chen, Jiao Li, Xilin Wang, and Linus Zhang</i>
12:30-13:30	<b>Lunch break</b>
<b>Room Q1</b>	
<b>Session: New approaches in water systems modelling and monitoring</b> <i>Chair: Johanna Korhonen</i>	
13:30-13:45	<b>Connecting large scale circulation patterns to seasonal runoff – understanding the engines that drive hydrology to improve seasonal hydrologic forecasts</b> <i>*Kean Foster, Cintia Bertacchi Uvo, and Jonas Olsson</i>
13:45-14:00	<b>Drought dynamics of central Finland in response to atmospheric circulation patterns: 1959-2009</b> <i>*Masoud Irannezhad, Ali Torabi Haghighi, Deliang Chen, and Bjørn Kløve</i>
14:00-14:15	<b>Fuzzy logic for estimation of streamflow under ice-affected conditions</b> <i>Jarkko Koskela and Hannu Sirviö</i>
14:15-14:30	<b>River channel morphodynamics caused by ice in a sub-arctic natural state stony river – a case study based on laser scanning data</b> <i>Eliisa Lotsari, Yunsheng Wang, Harri Kaartinen, Antero Kukko, Anttoni Jaakkola, Matti Vaaja, Hannu Hyyppä, Juha Hyyppä, and Petteri Alho</i>
14:30-14:45	<b>Hydraulic factor as criterion for alluvial stream channel stability assessment</b> <i>Saulius Vaikasas, Raimundas Baublys, and Ramūnas Gegužis</i>
14:45-15:15	<b>Coffee break</b>
15:15-15:45	<b>Closing session (Room Q1)</b>
<b>Room Q31</b>	
<b>Session: Cold climate hydrology - modeling and monitoring the cryosphere</b> <i>Chair: Timo Huttula</i>	
11:00-11:15	<b>How to better describe the spatial variation of snow over Sweden... and does it matter?</b> <i>Joel Dahné, Barbro Johansson, and David Gustafsson</i>
11:15-11:30	<b>Monitoring Snow Water Equivalent using X-band radar satellite data in a Norwegian hydropower catchment</b> <i>Frano Cetinic, Eirik Malnes, and Heidi Hindberg</i>
11:30-11:45	<b>Measuring snow water equivalent with gamma radiation sensors (CS 725)</b> <i>Heidi Bache Stranden and Bjørg Lirhus Ree</i>
11:45-12:00	<b>Monitoring of ice break up in Torne and Tana river using earth observation satellites in the Copernicus project CryoLand</b> <i>Eirik Malnes, David Gustafsson, Jari Uusikivi, Kjetil Melvold, and Gabriele Bippus</i>
12:00-12:15	<b>Modelled runoff sensitivity to snow parameterization - A case study for Upper Beas basin in Himachal Pradesh, India</b> <i>*Trine J. Hegdahl, Lena M. Tallaksen, Kolbjørn Engeland, John F. Burkhart, and Chong-Yu Xu</i>
12:15-12:30	<b>Influence of river ice on water levels and erosion potential of sediments now and in the projected hydro-climatic conditions</b> <i>*Maria Kämäri, Eliisa Lotsari, Petteri Alho, Juha Aaltonen, Noora Veijalainen, and Mikko Huokuna</i>
<b>Room Q31</b>	
<b>Session: Learning from uncertainty - translation to planning and decision making</b> <i>Chair: Linus Zhang</i>	
13:30-13:45	<b>Flood frequency analysis – does the use of historical data improve estimates?</b> <i>Donna Wilson and Kolbjørn Engeland</i>
13:45-14:00	<b>Flood frequency estimation in ungauged catchments using a distributed hydrological model and regional flood frequency analysis. A case study for Iceland</b> <i>Philippe Crochet and Tinna Thórarinsdóttir</i>
14:00-14:15	<b>Regionalisation of the Parameters of the Rainfall-Runoff Model PQRUT</b> <i>*Valeriya Filipova, Harald Klempe, and Deborah Lawrence</i>
14:15-14:30	<b>Water quality for Sweden – from hydrological modelling to decision makers</b> <i>Lena Strömbäck, Johan Strömqvist, Charlotta Pers, Niclas Hjerdt, and Lena Eriksson Bram</i>
14:30-14:45	<b>Simulation of changed transpiration due to groundwater drawdown in infrastructure projects as proxy for effects on crop: Case study – Road and railway junction in Skänninge, Sweden.</b> <i>David Gustafsson and Jonas Sundell</i>

Poster presentations (inside and outside of room Q34)

\*student presentations

<b>Climate change - impacts, adaptation, and resilience</b>	<b>Large scale water balance modelling - Integrated water resource management</b>
Evaluation of convective and stratiform precipitation in an ensemble of regional climate model simulations <i>Jan Kyselý, Zuzana Ruffová, and Aleš Farda</i>	Hydrological modelling: River runoff modelling of large River basins in Estonia. <i>Juan Manuel Garcia Diaz</i>
Slussen in Stockholm - a multidisciplinary challenge <i>Johan Andréasson and Signild Nerheim</i>	Reconstructed model improvements, when going from S-HYPE 2008 to 2012 <i>Berit Arheimer and Göran Lindström</i>
Long-term changes in the water temperature of Latvia's rivers <i>*Inese Latkovska and Elga Apsīte</i>	Changing flow characteristics and their impacts on river systems in the Arctic: a combined approach of multi-temporal Landsat image change detection and flow simulation methods <i>*Jenni-Mari Vesakoski, Petteri Alho, Berit Arheimer, David Gustafsson, and Kristina Isberg</i>
<b>Cold climate hydrology - modeling and monitoring the cryosphere</b>	<b>New approaches in modelling and monitoring - Learning from uncertainty</b>
Characteristics of wind-induced loss of solid precipitation derived from a Norwegian field study <i>Asgeir Petersen-Øverleir, Mareile Wolff, Ketil Isaksen, Karianne Ødemark, Trond Reitan, and Ragnar Brækkan</i>	Exploring the spatial temporal variability of precipitation and streamflow changes in Xiangjiang River Basin, southern China using multiple methods <i>*Hongliang Xu, Chong-Yu Xu, Yixing Yin, Hong Li, Bin Zhou, and Chen Hua</i>
Comparing passive microwave observations of snow water equivalent with in-situ data from Finnish snow courses <i>*Mikko Moisander, Sari Metsämäki, Heidi Sjöblom, Kristin Böttcher, Hannu Sirviö, and Johanna Korhonen</i>	Evaluation of mixing zones in Latvian-Lithuanian transboundary river basin <i>Jurate Kriauciuniene, Ligita Vircava, Diana Meilutyte, Aldona Jurgelenaite, Anete Sturma, and Tatjana Kolcova</i>
Characteristics of extreme precipitation based on the Generalized Pareto Distribution model for the Beas basin in Himalayan region, India <i>Yixing Yin, Chong-Yu Xu, Haishan Chen, Lu Li, Hongliang Xu, Hong Li, and Sharad K. Jain</i>	Aspects of river typology from the view of mixing zones calculation in transboundary river basin region (LT – LV Project HOTRISK) <i>Ligita Vircava, Jurate Kriauciuniene, Eduards Križickis, Kristaps Caune, Diana Sarauskiene, Darius Jakimavicius, Armands Ruskulis, and Ieva Spradze</i>
Performance evaluation of the large-scale GSM-WASMOD glacio-hydrological model at different resolutions and uncertainty analyses of model predictions and parameters: Case study- Beas river basin, India <i>Lu Li, Fiseha G. Gebremedhin, Chong-Yu Xu, and Sharad K. Jain</i>	Factors controlling daily oscillations of springs discharge <i>Marek Marciniak and Anna Szczucińska</i>
<b>Water, energy, food - water resources management in a wider perspective</b>	
Noble crayfish <i>Astacus Astacus</i> in rivers of western Estonia islands: Do flow period influence the stock of crayfish? <i>Tii Pedusaar, Margo Hurt, Liisi Labo, and Mark Pahk</i>	Sharing Water-related Information to Tackle Changes in the Hydrosphere – for Operational Needs (SWITCH-ON) <i>Berit Arheimer and the SWITCH-ON project consortium</i>
The most applicable methods for environmental flow estimation in small rivers of Estonia <i>Alvina Reihan, Anna Pyrh, and Enn Loigu</i>	The water quality of oxbow lake under an agricultural water use restructuring project in Ishikari River Basin, northern part of Japan <i>Tadao Yamamoto</i>
Modeling of Water Temperature in a Small Pond with Multiple Regression Techniques <i>Mine Albek and Erdem Albek</i>	Water Quality in a Small Pond in Relation to Atmospheric Inputs and Watershed Processes <i>Meltem Kaya and Erdem Albek</i>
<b>Hydrology and hydrochemistry - Links in surface and ground waters</b>	<b>Surface water in urban areas - design, risks and new solutions</b>
Seasonal and spatial variations in hydrochemistry of spring water in formerly glaciated areas of western Poland - contribution of natural and anthropogenic factors <i>Anna Szczucińska</i>	Scaling based approach to IDF curves estimation in Slovakia <i>Silvia Kohnová, Karolína Zechelová, Ján Szolgay, and Kamila Hlavčová</i>
Hydrogeochemical characteristics and interpretation of Gauja aquifer in Latvia <i>*Inga Retike, Janis Bikse, Alise Babre, Andis Kalvans, Konrads Popovs, and Gunta Kalvane</i>	