



SnowHydro – International Conference on Snow Hydrology



Final conference program

<http://www.geog.uni-heidelberg.de/hydro/snow2018.html>

Professorship in Hydrology and Climatology, Department
of Geography, Heidelberg University.

Responsible organisers: Lucas Menzel, Verena Maurer

snowhydro18@uni-heidelberg.de

Venue

Heidelberg University, campus “Im Neuenheimer Feld (INF)”, lecture hall building INF 252 (chemistry). Arrival directions and map: see reverse side

Sunday, February 11, 16:00 – 18:00

Registration and icebreaker (drinks and snacks available)

Monday, February 12

08:00 – 09:00 registration

Lecture room “Grosser Hörsaal West”

09:00-09:15	Welcome and Introduction Lucas Menzel, Heidelberg University
09:15-09:30	Welcome address Jale Tosun, Heidelberg University and vice-president, Heidelberg Center for the Environment HCE
09:30-09:45	Welcome address Markus Weiler, University of Freiburg and president, German Hydrological Society DHG

10:00-10:45	keynote lecture: Are Siberian snow cover and Arctic sea ice contributing to increased severe winter weather across the mid-latitudes? Juda Cohen, MIT Cambridge (USA) and Atmospheric and Environmental Research
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10:45 – 11:15 coffee break

Session 1: Snow and climate change Chairpersons: Irene Brox Nilsen, Torsten Starkloff	
11:15-11:35	Snow cover changes in European mountains derived from Global SnowPack time series Zhongyang Hu & Andreas Dietz
11:35-11:55	Inter-comparison of distributed models to analyze the sensitivity of snow cover to global warming on various mountain ranges Denis Ruelland
11:55-12:15	A retrospective analysis of snow impacts on permafrost hydrology Hotaek Park
12:15-12:35	Diagnosing land-atmosphere coupling in a seasonally snow-covered region (South Norway) Irene Brox Nilsen et al.
12:35-12:45	Poster presentations Thermo-insulation effect of a seasonal snow-cover on permafrost soil in Bayelva, Svalbard (1998 - 2017) Sabrina Ebenhoch et al. Warming increases spatial hydrological homogeneity: Sensitivity of fluxes in a catchment dominated by wind redistribution of snow Timothy Link et al.

12:45 – 14:15 lunch break

Monday, February 12, 2018, Lecture room "Grosser Hörsaal West"

Session 2: Recent advances in experimental snow research and new measurement techniques

Chairpersons: Ole Rössler, Franziska Koch

14:15-14:35	Operational snow measurements with Georadar – A case study from Överuman, Sweden Wolf-Dietrich Marchand & Björn Norell
14:35-14:55	Cosmic-ray neutron sensing as a new method for monitoring snow dynamics in a large footprint Sascha Oswald et al.
14:55-15:15	Snow monitoring with a novel GNSS approach at a high-alpine station Franziska Koch et al.

15:15 – 15:45 coffee break

Session 2: Recent advances in experimental snow research and new measurement techniques

Chairpersons: Franziska Koch, Ole Rössler

15:45-16:05	Innovative snow melt and run-off sensor Christoph Sommer
16:05-16:25	Understanding snow processes in mountainous regions: Observation system and integrated model Hongyi Li
16:25-16:45	Poster presentations The quantification of snow meltwater in a snow-dominated catchment based on a spatially distributed isotope sampling network Andrea Rücker et al. Snow process monitoring in montane forests with a digital camera network Chunyu Dong & Lucas Menzel Using a rain-on-snow simulator to study the influence of snow properties on discharge generation Ole Rössler et al.

Young scientists meeting

Meeting organizer: Arnab Muhuri, Gaia Piazzini, Caleb Pan

16:45 – posters on display

19:00 – guided city tour. Stroll through the historic city center and the old university. Meeting point: university square (Universitätsplatz)

Tuesday, February 13, 2018, Lecture room "Grosser Hörsaal West"

09:00-09:45	keynote lecture: Challenges and advances in operational snow hydrological modelling Tobias Jonas, SLF Davos (Switzerland)
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09:45 – 10:30 poster session (authors of posters are present at their posters)
coffee and tea

Session 3: Advances in snow hydrological modelling & assimilation of snow data for hydrological modelling in cold regions Chairpersons: Tobias Jonas, Timothy Link	
10:30-10:50	Introduction of a SWE-SCA hysteresis in a degree-day snow model for rainfall-runoff modelling Guillaume Thirel et al.
10:50-11:10	Realism versus simplicity in the snow routine of the HBV model Marc Girons Lopez et al.
11:10-11:30	Influence of model spatial resolution on snow and hydrological processes at high latitudes Jan Magnusson et al.
11:30-11:50	Assimilation of snow observations in a distributed hydrological model for the mountainous Upper Euphrates Basin Aynur Sensoy et al.

12:00 – 13:30 lunch break

Session 3: Advances in snow hydrological modelling & assimilation of snow data for hydrological modelling in cold regions Chairpersons: Gaia Piazzi, Jan Magnusson, Guillaume Thirel	
13:30-13:50	Analysis of snow covered area and snow cover duration in an Alpine region: insights from a distribution-function approach to snowmelt modelling Nicola Di Marco et al.
13:50-14:10	Treatment of forcing data uncertainty in snowmelt modelling by using DREAM Algorithm Zuhal Akyurek & Faisal Baig
14:10-14:30	A comparative study of snowmelt modelling approaches in the Moroccan High Atlas Mountains Hafsa Bouamri et al.
14:30-15:00	Poster presentations Measurement based evaluation of different snow models in WaSiM for a small subalpine catchment Matthias Kopp et al. Trend of degree-day factors in response to hydro-climatological and physiographic parameters Muhammad Fraz Ismail et al. A comparison study of sequential ensemble-based schemes for multivariate assimilation of snow data at different Alpine sites Gaia Piazzi et al. An accurate simulation of liquid water flow to improve firn modelling Vincent Verjans et al. A machine learning approach to exploit snow remote sensing data for run-off prediction Mattia Callegari et al.

15:00 – 15:30 coffee break

Tuesday, February 13, 2018

Afternoon parallel sessions

Lecture room "Grosser Hörsaal West"

Session 4: Operational applications in snow hydrology	
Chairperson: Peter Krahe	
15:30-15:50	Mysnowmaps: snow maps display and snow data crowdsourcing Stefano Tasin et al.
15:50-16:10	Snow water equivalent from operational GNSS in-situ stations as service for hydrological applications – ESA IAP SnowSense Demo Florian Appel et al.
16:10-16:30	Hydrological applications and validation of EUMETSAT-H SAF snow products for selected river basins in Europe and Near East Peter Krahe et al.
16:30-16:50	Upper Chenab snow- and glacier melt runoff modelling for forecasting seasonal water availability Wolfgang Bogacki & Muhammad Fraz Ismail
16:50-17:00	Poster presentations Application of remote sensing snow cover data from MODIS for seasonal flow forecast in the Syrdarya River Basin Olga Kalashnikova

Lecture room "Kleiner Hörsaal"

Session 5: Snow hydrology in semi-arid environments	
Chairperson: Denis Ruelland	
15:30-15:50	Streamflow simulation for high-elevation semi-arid catchments: a case study in the Vedi River of Armenia Vazken Andréassian et al.
15:50-16:10	The value of remote sensing snow cover data in data-scarce semi-arid regions Abror Gafurov et al.
16:10-16:30	Major impacts of the observed shifts in the snow regime on river flow in semiarid regions: lessons learnt from Sierra Nevada (Southern Spain) Maria J. Polo et al.
16:30-16:40	Poster presentations The spatial and temporal distribution of snow in a semi-arid headwater, northern Mongolia Munkhdavaa Munkhjargal et al.

19:00 – conference dinner: Helmstätter Herrenhaus / Cantinaccia

Wednesday, February 14, 2018

Morning parallel sessions

Lecture room “Grosser Hörsaal West”

Session 6: Application of remote sensing snow products in hydrological studies Chairpersons: Abror Gafurov, Richard Kelly	
09:00-09:20	Snow monitoring using Sentinel-1 and Sentinel-2 images Carlo Marin et al.
09:20-09:40	Influence of black carbon on physical properties of snow using remote sensing and field based spectroradiometer data. A case study from Dhundi to Solang, Western Himalaya Laxmi Narayan Sharma
09:40-10:00	Investigation and modelling of penetration depth of TanDEM-X Interferometric SAR Data over the Greenland ice sheet Sahra Abdullahi et al.
10:00-10:20	Fusion of remote sensing and hydrological model data for improving snow mapping Ludovica De Gregorio et al.

Lecture room “Kleiner Hörsaal”

Session 7: Open session on snow hydrology Chairperson: Lucas Menzel	
09:00-09:20	Evolution of snow cover stratigraphy during ablation period in High Arctic tundra environment (SW Spitsbergen) Daniel Kepski et al.
09:20-09:40	Factors to consider for improving rain snow parameterization in surface based models James Feiccabrino
09:40-10:00	Snow avalanche activity recorded by tree-rings in Rodna Mountains (Eastern Carpathians), Romania Ionela Gavrilă et al.
10:00-10:20	Teaching snow hydrology - A research related educational concept for undergraduate programs Roswitha Stolz & Tobias Hank
10:20-10:30	Poster presentations Teaching snow-related concepts in the Romanian university curricula. Study case – Faculty of Geography, University of Bucharest Laura Comanescu & Alexandru Nedelea Zoning the territory of Kazakhstan for snow loads Aliya Nurbatsina A first gridded rain-on-snow product derived from passive microwave remote sensing for Alaska Caleb Pan et al. The triggering of remote controlled avalanches in the Romanian Carpathians. Capra Valley case study (February 2013) Alexandru Nedelea et al.

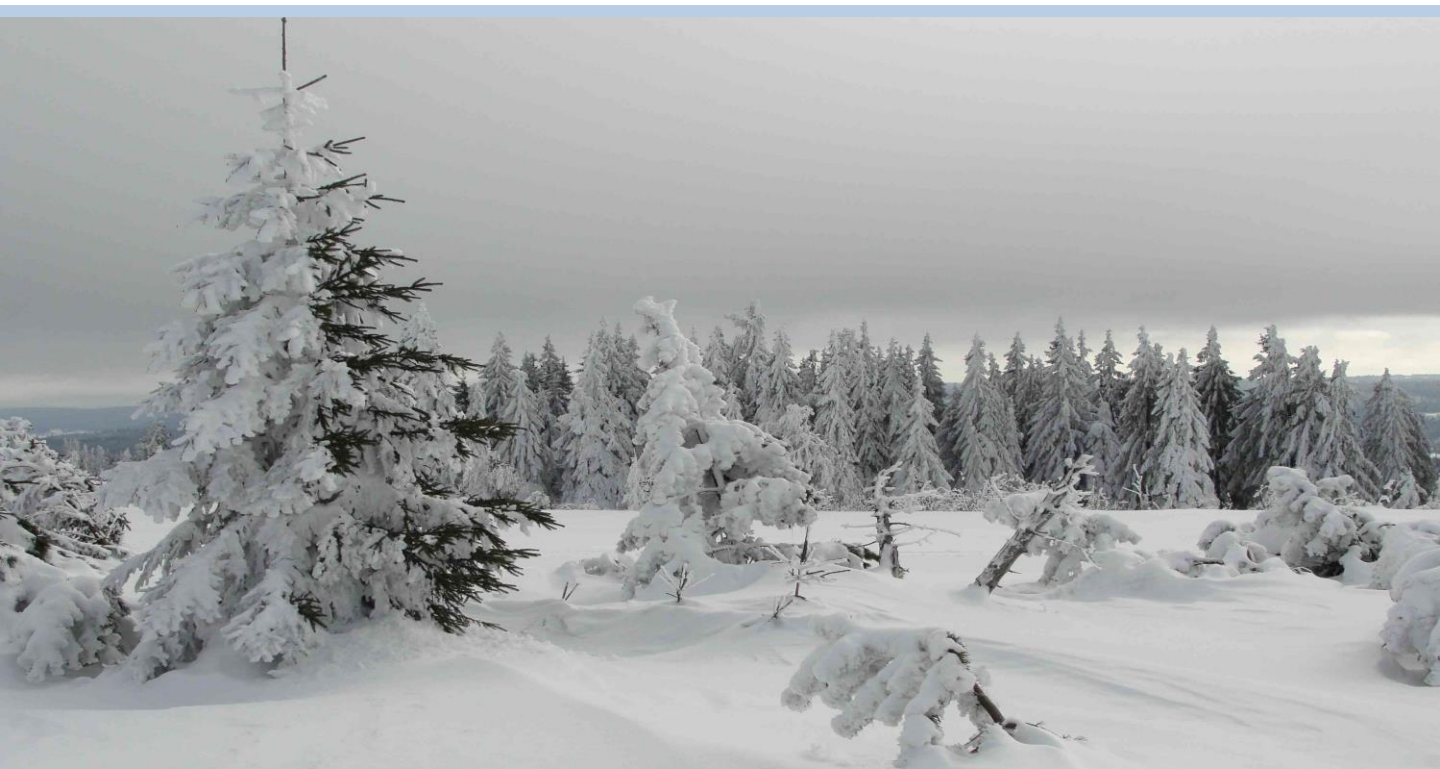
10:30 – 11:00 coffee break

Wednesday, February 14, Lecture room “Grosser Hörsaal West”

Session 6: Application of remote sensing snow products in hydrological studies	
Chairpersons: Abror Gafurov, Richard Kelly	
11:00-11:20	Monitoring snow cover extent with satellite synthetic aperture radar for snow hydrological applications Arnab Muhuri et al.
11:20-11:40	Ku and X-band observations of seasonal snow in tundra, alpine and maritime snow landscapes Richard Kelly & Aaron Thompson
11:40-12:00	On the unknown precipitation amounts of high-elevation catchments: can we use MODIS images to infer precipitation-elevation gradients? Vazken Andréassian et al.
12:00-12:20	A portfolio of snow products based on Sentinel-3 for snow hydrology Rune Solberg et al.
12:20-12:30	Poster presentations Producing cloud-free MODIS snow cover products for SW Germany through the application of conditional probability interpolation and meteorological data Chunyu Dong & Lucas Menzel

12:30 – 14:00 lunch break

14:00-14:15	Report from the young scientists meeting
14:15-15:30	Panel discussion on recent advances and challenges in snow hydrology
15:30	closure



Thursday, February 15, 2018

8:00 – 19:00

Excursion: Black Forest

The excursion is currently booked up! Participants are advised to bring warm and rainproof clothes as well as rough, functional shoes! The excursion includes a morning snack as well as a plain lunch in a mountain hut



Oral presentations

Please note that the duration given to oral presentations includes approx. 5 minutes for questions and discussion (e.g. a 20-minute talk should be 15 minutes of presentation + ca. 5 minutes of discussion).

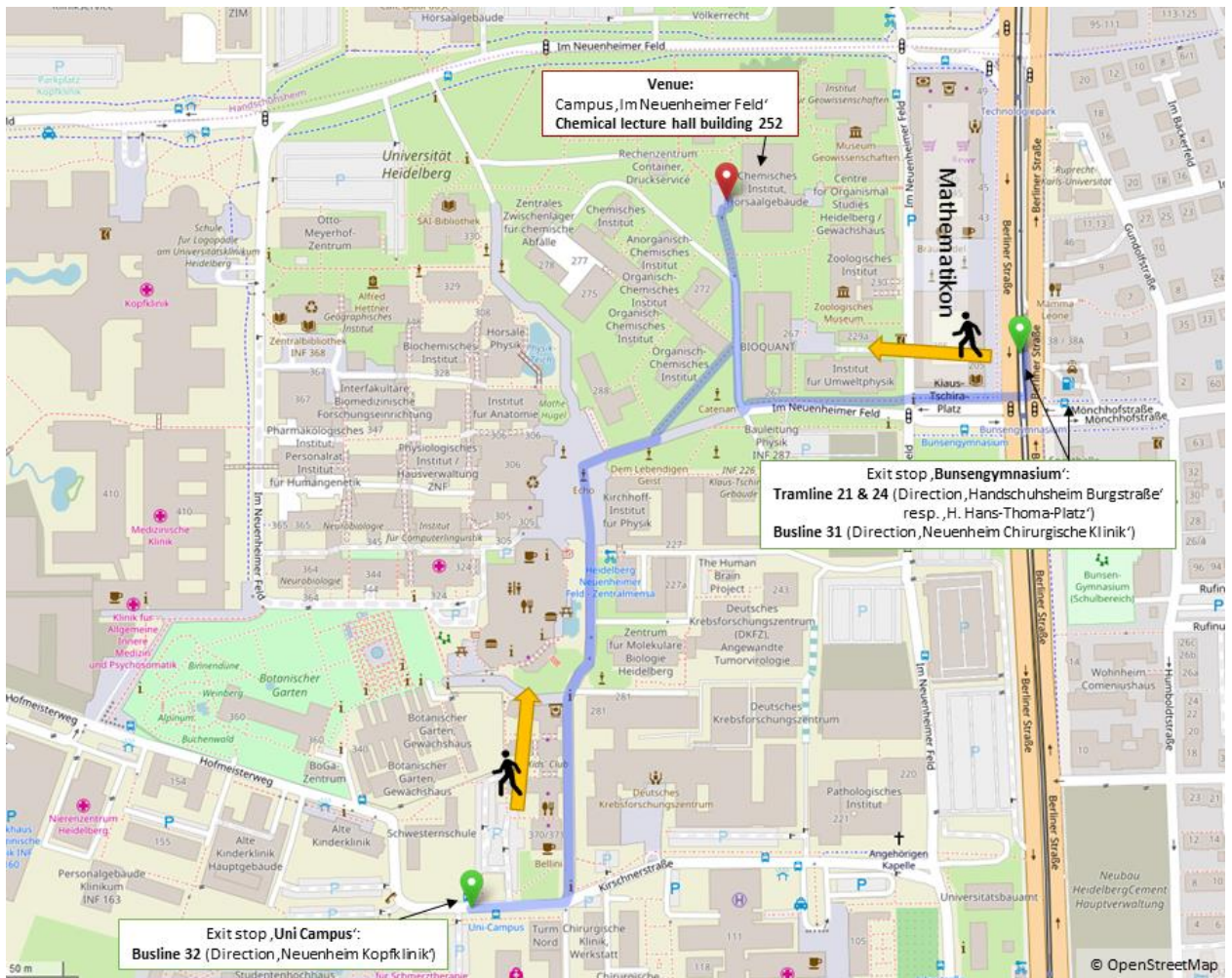
Posters

Poster boards are in **portrait format**, and authors can make use of the full dimensions of ca. 85 cm width × 120 cm height (e.g. **portrait A0** posters as an often-used format fit perfectly). All the material necessary for attaching the poster to the poster board is available. If necessary, there are assistants to help authors put up or take down their posters. Poster presenters are advised to **bring a .ppt-slide** for a short presentation during their respective scientific session.

Venue

Heidelberg University, campus “Im Neuenheimer Feld (INF)”, lecture hall building INF 252 (chemistry).

From the city center or the central railway station take tram nr. 21 or 24 (direction “Handschuhsheim Burgstrasse” resp. “Hans Thoma Platz”), leave at tram stop “Bunsengymnasium”, or take bus 31 or 32 (direction “Neuenheim Chirurgische Klinik” resp. “Neuenheim Kopfklinik”), leave at bus stop “Bunsengymnasium” or “Uni Campus”



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