

# Towards a better harmonization of snow observations, modeling and data assimilation in Europe – COST Action ES1404 Harnosnow

30 October 2018

- 8h-8h40 Registration  
8h50 Welcome talks
- Intercomparison of measurement methods, remote sensing product and assessment of their errors** chaired by Leena Leppänen, Nacho Lopez Moreno
- 9h10 Remote Sensing of Snow: an overview -- Giovanni Macelloni  
9h30 Retrieval of snow albedo from space and potential errors -- Charles Gatebe  
9h50 Intercomparison and assessment of fractional snow cover products retrieved from optical remote sensing -- Igor Appel  
10h10 Seasonal snow depth derived from satellite sub-meter stereo images in Iceland -- Andri Gunnarsson  
10h30 Coffee break & posters  
11h00 Differences on snow density and snow water equivalent estimation using different snow tubes: instrumental bias, variability induced by observers and influence of snow and terrain conditions -- Juan Ignacio López Moreno  
11h20 Intercomparison of snow measurement methods in Turkey -- Arda Sorman  
11h40 Overview of the European In-Situ Snow Measurements obtained through the Harnosnow WG1-WG2 survey. -- Roberta Pirazzini  
12h00 10 min Discussion  
12h10 Lunch
- Snow data assimilation methods in NWP, hydrology, and other disciplines** chaired by Ekaterina Kurzeneva, Carlo De Michele
- 13h40 Snow data assimilation methods for hydrological, land surface, meteorological and climate models: Results from the COST HarmoSnow survey -- Juergen Helmert  
14h00 Data Assimilation of Satellite Snow Products through Hydrological Modelling in Mountainous Catchments -- Aynur Sensoy Sorman  
14h20 Snow data assimilation at Deutscher Wetterdienst -- Martin Lange  
14h40 10 min Discussion
- On the representation of errors in NWP, hydrological and climate models** chaired by Vera Potopová, Martin Lange
- 14h50 Error statistics in Data Assimilation for NWP: perspectives for snow -- Ekaterina Kurzeneva  
15h10 The application of snow observations in agrometeorological models -- Vera Potopová  
15h30 Comparison of statistical downscaling methods of satellite-based snow water equivalent product -- Justinas Kilpys  
15h50 10 min Discussion  
16h00 Coffee break & posters
- Harmonization strategies across international organizations and other activities** chaired by Patricia De Rosnay, Ali Nadir Arslan
- 16h30 HarmoSnow and Global Cryosphere Watch – Common goals and aspects -- Charles Fierz  
16h50 Global Cryosphere Watch (GCW) Snow Watch activities for improved data reporting and exchange -- Patricia de Rosnay  
17h10 European Space Agency snow activities -- Tânia Casal  
17h30 10 min Discussion
- 17h40 **Posters lightning talks (1:30 min each)** chaired by Katalin Gillemot, Ghislain Picard  
18h30 **Posters and light refreshments**

31 October 2018

**Actions and methods for training snow scientists and observers** chaired by David Christian Finger, Martin Schneebeli

- 8h30 Field Measurements for Snow Science in North America: Programs and Training -- Kelly Elder  
8h45 Experiences from the Snow Science Winter Schools -- Martin Schneebeli  
9h00 10 min discussion on the future of teaching snow science

**Recommendations on measurement methods and instrumentation** chaired by Ladislav Holko, Charles Fierz

- 9h10 Ground Measurements for Field Campaigns: Parameters, Priorities and Problems -- Kelly Elder  
9h30 Overview of in situ snow albedo measurements -- Roberta Pirazzini  
9h50 Snow chemistry of seasonal snow cover – effort towards a guideline for environmental monitoring purposes -- Wolfgang Schöner  
10h10 10 min Discussion  
10h20 Coffee break & posters

**Snow observation reporting and dissemination** chaired by Giovanni Macelloni, Samantha Pullen

- 10h40 Insights of the European Snow Booklet -- Anna Haberkorn  
11h00 Enhancing data quality and data publication with the MeteIO library -- Mathias Bavay  
11h20 Automatic snow measuring stations network in CHMI -- Šimon Bercha  
11h40 3D-snow mapping, a comparison of methods leading to a standardized measurement and post processing protocol -- Alexander Prokop  
12h00 10 min Discussion

12h10 Lunch

**Intercomparison of snow models and future of snow modeling across disciplines** chaired by Marie Dumont, Jürgen Helmert

- 13h30 ESM-SnowMIP: Concept, first results and plans -- Gerhard Krinner  
13h50 Snow modelling : current status and future avenue -- Marie Dumont  
14h10 A multi-layer snow cover model for numerical weather prediction and climate models -- Sascha Bellaire  
14h30 Impacts of meteorological data elevation coverage on a hydrologic model for mountainous watersheds -- Lampros Vasiliades  
14h50 Coffee break & posters  
15h10 Modeling and operational forecast of hazardous wet snow load at the Hungarian Meteorological Service -- Somfalvi-Tóth Katalin  
15h30 Evaluation of Point Based Snowpack Modeling for SNOTEL Sites in Turkey -- Arda Sorman  
15h50 10 min Discussion

16h00 **Closing remarks**

16h10 **End**