

**Subject:** Minutes of the 3<sup>rd</sup> Management Committee Meeting of COST Action ES1404 “A European network for a harmonised monitoring of snow for the benefit of climate change scenarios, hydrology and numerical weather prediction”

**Helsinki, Finland**

**November 4, 2015**

## 1. Opening

The chair opened the meeting with welcoming the participants and introduced the agenda and the agenda was accepted by the participants.

## 2. Budget Status

The chair, Ali Nadir Arslan, presented the budget status via the e-COST interface. The first grant period finished end of September. The second period started on 01 10 2015 until 31 12 2015. The budget forecast is 52320€ for this meeting, 10400€ for STSMs and for dissemination (web page design etc) it is 5400€. Other expenses are expected to represent 211€. The total expenses forecast are 68331€ for the current grant period. So far estimates are 6410€ for STSMs and 38460€ for this meeting (total estimated expense 44870€).

The current grant period will be extended until end of April 2016 to be synchronized with H2020. So, the total budget will be topped by a further 50666€ until the end of April, 2016.

By then there will be STSMs, field campaign in Turkey and Slovakia and MC meeting in Vienna.

## 3. Status of STSM

Giovanni Macelloni presented the status of the STSMs. They aim at strengthening the existing COST action by allowing scientist to go to an institution or laboratory in another COST country to foster collaboration. To apply we need to submit a request to STSM manager and to COST manager indicating the name and CV of the applicant, the name of the hosting institution, the purpose of the STSM mission and the date and expected budget. Once approved the same information needs to be filled in the e-COST form. So, the procedure is very simple and straightforward. In 2015 there was five missions:

- France-Italy: post-doc on WG1/WG2, 1300€
- Finland-Turkey, Bulgaria: To organize the campaign, 1250€

- Portugal-Finland: Post-doc WG1-WG2 field campaign, 1300€
- Finland Iceland: senior scientist WG1-WG2, 1300€
- Hungary-Andorra.: post doc WG1-WG2-WG3 field campaign and models, 1260€

There are plans for two more (in preparation) and another one could still be proposed before the end of the year, which would lead to 8 STSMs.

There will be a winter school in Davos in February 2016. This COST action proposed to provide support to 5-8 students to attend the winter school. The dead line is 10 November. So far they received 29 applications for the winter school. The organizers should let us know the successful candidates so that we can cover 8 missions. We agreed that we can allocate 3500€ for these STSMs.

It would be useful in the future to fix a periodic dead line for proposal's submission (e.g. 3 months).

#### 4. Status of webpage: [www.harmosnow.eu](http://www.harmosnow.eu)

Cemal Melih Tanis presented the status of the web page. We should send him the material we have. There is an external page and an internal page (<http://harmosnow.eu/internal>) with login (costsnow\_int) and password (R5rut#Hoob7). There are presentations and minutes from the meetings. A wikipage is also available for which we all received information already.

The list of MC members is given on the web page. The emails and institute would be useful to give with the list. It will be updated to give information on STSMs and WG leaders with their contact information. The COST members are invited to have a look at and to use the web page and to give information of relevance for the web page. It would be useful when we click on the notice board events to be redirected to the corresponding level on the news page. It would be useful to have the workshop presentations available on the public page. It will be useful to give email lists for all, MC, WG1, WG2 and WG3 members. This should be on the internal page to avoid spam issues.

#### 5. Approval of New Member Countries

New members are Greece and Ireland. The 16 countries present at the meeting approved it.

#### 6. Planning of work plan & budget in 2015 and 2016

We have to plan several meetings and campaigns with a budget of 55000€ (Ali: check) until the end of April 2016.

- One MC meeting will be held. It can be in Slovakia (TBC), or in Vienna with EGU (17-22 April), or in Turkey. It will be difficult to find a date in the EGU week. Combining MC meeting and field campaign in Turkey was approved. It will be on the 1st week of March (25000€)
- STMS (6410€ see above budget) and winter school (4000€)
- Field campaigns: 1st week of March (29 Feb-4 March) in Turkey. There are some connections with H-SAF snow activities. There is also an opportunity to organize a snow validation meeting for H-SAF at the same time. It would increase the number of participants. It will be discussed later in November during the H-SAF Project Team meeting. 15000€ should enable to cover this field campaign.

Budget wise there is an opportunity to participate to the Slovakian field campaign, to be clarified by Pavol Nejedlik. Other meetings in 2016 to be held after April 2016 will include a workshop proposed by Roberta Pirazzini and a MC meeting can be held in October in Florence Italy.

## 7. AOB

- Update of the WG2 leaders after Samuel Morin and Michele Citterio step down. Ghislain Picard agreed to be the leader of WG2 and we agreed to propose Leena Leppänen to be co-leader.
- Guideline book on how to measure snow would be very useful. We will set up a committee, an editorial board, to coordinate the book content and monitor its progress. The Editorial board will involve Ali Nadir Arslan, Wolfgang Schöner, Ekatarina Kurzeneva, Christoph Marty, Giovanni Macelloni, and others from France (to be discussed with Ghislain Picard). Jurgen Helmert and Patricia de Rosnay will also contribute. We should organize a dedicated meeting to discuss it.
- Roberta Pirazzini presented plans for a two-day workshop on in-situ snow albedo measurements proposed by her, Ghislain Picard and Marie Dumont. It will be a thematic workshop on snow spectral and albedo measurements with a focus on uncertainties estimates (measurements error, field set up etc). There are not many facilities to measure and calibrate all these sources of uncertainties. The objective will be to answer the following questions:
  - What is the accuracy that spectral and broadband albedo measurements can achieve?
  - What is presently the standard calibration and characterization of the instruments?
  - Which calibration and characterization of the instruments would be required in order to allow a meaningful comparison of the measurements obtained with different instrument and under different environmental conditions?

The first day of the workshop would be to illustrate the calibration of the different instruments and discuss the advantage and disadvantage of each. Then it is proposed to illustrate the instrumental sources of uncertainties. It will be followed by a discussion on the available calibration facilities and possibilities to improve/develop. Visit to FMI or Altao university radiometric lab.

On the second day it is proposed to illustrate the sources of uncertainties related to the experimental setup and environment conditions. The discussion would focus on strategies and tools to account for the impact on of the setup on the measurements. The outcome of the workshop would be (1) to draft a calibration and measurements protocol, (2) to plan for a snow albedo inter-comparison campaign where the developed protocol would be applied and further refined.

The coordinating group is extended to include Michele Citterio, Carleen Tijm-Reijmer, Maria (Derkova?) and Wolfgang Schöner. A tentative date is proposed for late August beginning of September 2016.

- Jürgen Helmert presented the summary of the WG3 meeting. Concerning the questionnaire, it was agreed that it will have a few technical improvements and it will be sent to the SnowWatch team. It will be also distributed to other groups NWP consortia and hydrology mailing lists. We also discussed relevant activities to be conducted such as usage of offline snow models, comparison of data assimilation and snow models. The topic of data assimilation in NWP centers was discussed. We discuss the possibility of discussing snow data assimilation in a conference or in winter or summer school. It is important to have meetings with educational purpose. The exchange of data on the GTS was discussed, as it will benefit the NWP community. A review of the snow models and connection with WG1/2 was discussed. Improving data assimilation systems could be addressed in H2020 proposals. One idea would be to address how to combine different sources of observations in data assimilation systems.

- Juha Lemmentyinen presented the ongoing proposal for the ESA Earth Explorer 9 snow mission concepts. So far there have been several core missions (GOCE, ADM-Aeolus, EarthCARE, Biomass) and opportunity missions (SMOS, CryoSat, Swarm, EE8 FLEX). The proposal CoReH2O (Cold Regions Hydrology High-resolution Observatory) went to the final phase of the EE7 but was not selected. There is a clear need for improved snow cover and snow mass products at daily temporal resolution and high spatial resolution. There is a range of remote sensing techniques to address global snow (passive microwave, radar, hyperspectral etc.). Three concepts:

- Dual frequency radar in a conical scanning configuration to ensure a ~250m-500m with a large swath and global coverage in 2 days.
- Active passive multi-frequency wide swath,
- Multi-frequency interferometric radiometer

The ESA EE9 call will be out this month. A letter of intent will be submitted in Feb 2016 and full proposal in summer 2016. The budget will be limited (less the 200M€). Three missions will be selected for phase-A studies. A strong support from the science and user community is important. COST can contribute to enhance connection with the remote sensing community. It can promote recent advances in modeling and measurement techniques and to formulate a common voice toward decision makers. In the case of the FLEX mission the science community around their COST action was one of the key element in the success of the selection.

A concrete support will be to write a support letter. Ali proposed to draft a letter and circulate in our group.

- Ali Nadir Arslan presented H2020 plans. A number of calls will be open on 10 November. Three of them will be of interest for us:
  - EO-1-2016: downstream applications
  - EO-2-2016: downstream services for public authorities
  - EO-3-2016: Evolution of Copernicus services

Societal challenges and greening the economy will also issue several calls:

- SC5-18-2017: Novel in situ observation systems (opening 08-11-2016)
- SC5-19-2017: coordination of citizen's observatories
- SC5-20-2016: European data hub for GEOSS

Others on training and security would be relevant for our group or part of the group. So, we need to be aware and look into more details.