

1st International Workshop on Antarctic permafrost, periglacial processes and soils

From an Expert Group to a Research Program

Varese 4-5 October 2016

After the first 20 years of collaborative permafrost research involving several international teams both in Maritime and in Continental Antarctica, the time has come for the activities to organize within a mature Research Program. Research has mainly focused on the thermal state of permafrost and the active layer, periglacial processes and landforms and cryosols. However, recently the community is becoming multidisciplinary, with research more focused on terrestrial ecosystem dynamics under a changing climate. Simultaneously, the links between ecosystem and permafrost scientists became stronger and common.

In addition, several SCAR Horizon Scan questions can only be properly addressed within an encompassing new Research Program, e.g.:

- # 10. Will there be release of greenhouse gases stored in Antarctic and Southern Ocean clathrates, sediments, soils, and permafrost as climate changes?
- # 39. What are and have been the rates of geomorphic change in different Antarctic regions, and what are the ages of preserved landscapes?
- # 42. How will permafrost, the active layer and water availability in Antarctic soils and marine sediments change in a warming climate, and what are the effects on ecosystems and biogeochemical cycles?

But clearly, there are also other urgent permafrost environment key-topics that need to be approached multidisciplinary, e.g.:

- Continental Antarctic permafrost as the best Martian analogue;
- Management of Antarctic ecosystem services.

The Varese workshop to be held in October 2017 aims at being the starting point for a tentative new SCAR multidisciplinary research program focusing on a holistic approach to the changing Antarctic permafrost systems.

The workshop could have the following structure:

4 October

8.30- 9.15 Registration

9.15 – 9.45 Welcome by President of PNRA, Rector of Insubria University; Directors of Departments; Local Organizer

9.45 – 11.15 Invited lectures by representatives of related programs: 1 ANTPAS; 1 Antera; 1 AntEco; 1 Antos; 20 min each

11.15-11.45 Coffee Break

11.45-13.15 Selected up to 6 orals on “# 39. What are and have been the rates of geomorphic change in different Antarctic regions, and what are the ages of preserved landscapes?”

13.15-14.15 Lunch

14.15-15.45 Selected up to 6 Orals on” 42. How will permafrost, the active layer and water availability in Antarctic soils and marine sediments change in a warming climate, and what are the effects on ecosystems and biogeochemical cycles?

15.45- 16.15 Coffe Break

16.15-17.45 Selected up to 6 orals on 1) Continental Antarctic permafrost as the best Martian analogue and 2)Antarctic Ecosystems services management

19.00 Social Dinner

5 October

9.00-10.30 Reports of the sessions by 3 Leading Rewiers

10.30-10.45 Group assignments and charges

10.45-11.15 Coffee Break

11.15-13.30 Group discussion

13.30-14.30 Lunch

14.30-16.00 Group discussion

16.00-16.30 Coffee Break

16.30-17.30 Reports of the three discussion Groups

17-30-18.30 General final discussion

19.00 Social dinner

In addition Poster communications on the topics of the sessions will be also accepted and displayed during all the two days.

For Antpas

Mauro Guglielmin