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11 am (Rome time) - Aula Microscopi

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# Changes in glaciers and glacial landforms as evident effects of ongoing climate change on the alpine cryosphere



Comitato  
Glaciologico  
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Ongoing climate change is deeply impacting high-mountain areas and glacier shrinkage is one of the most evident consequences. The general and progressive retreat of glaciers started in the European Alps at the end of the Little Ice Age (LIA, ca. 1850 AD) and it is expected to continue in the future. As a direct consequence, glaciers are changing their area, their volume and their shape. Newly deglaciated areas progressively becoming exposed are characterized by peculiar glacial landforms undergoing themselves specific changes due to global change. In some cases, the geomorphological conditions are suitable for glacier lakes formation. It is essential to provide an overview of the phenomenon and improving the knowledge about the spatiotemporal interactions between glacier and related glacier lakes by updated inventories. Moreover, it is becoming even more important to predict the suitable locations of potential future glacier lakes over large glacierized areas by dedicated models.

Finally, it is fundamental to take in mind the role of glacier and glacier lakes with respect to the Society: they represent both opportunities (tourism, exploitation as water reservoir and/or for hydropower production, biodiversity and geodiversity enhancement) and risks (ice falls, outburst flood) and it is essential to identify sites to prioritize for dedicated purposes like monitoring, valorization, enjoyment, fruition, and towards their sustainable management from the socio-environmental point of view.



## The Speaker

Cristina Viani is a physical geographer, she obtained her PhD in Earth Sciences in 2018 with a thesis in glaciology and has collaborated on international projects (NextData and GLIMS) on the same topic. After her PhD, she worked as a research fellow at the Research Institute for Geo-Hydrological Protection of the Italian National Research Council and at the Department of Earth Sciences of the University of Turin. She is a member of the Italian Glaciological Committee and carries out observation of some glaciers in the Western Alps as a glaciological operator.

