# Special Issue

# Freeze–Thaw Dynamics and Water Pathways: Vulnerability of Infrastructures and Disasters in Mines in Cold Regions

## Message from the Guest Editors

Hydrogeological processes in cold regions are more complex due to the involvement of the phase transitions of water and long-standing temperature gradients, which may cause severe differential deformation in subgrades, deterioration of construction materials, and the instability of slopes, tunnels, and embankments. Thus, they serve as one of the major causes of disease in infrastructures and disasters in mines in such regions. Exploring and digging out the key processes related to freeze–thaw dynamics and water pathways are crucial for enhancing the resilience of infrastructures and preventing disease in mines in cold regions. The primary focus of this Special Issue includes, but is not limited to, the following: Frozen soil/rock physics and mechanics; Thermo–hydro–mechanical coupled processes; Vulnerability and resilience of infrastructures in cold regions; Deterioration of concrete, rock, and other construction materials; Prediction of service life for infrastructures in cold regions; Water-induced mine hazards; Dewatering and recharging of mine water; Destabilization of slopes and tunnels induced by hydrogeological processes.

## Guest Editors

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## Deadline for manuscript submissions

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In the context of global changes, the sustainable management of water cycles, going from global and regional water cycles to urban, industrial and agricultural water cycles, plays a very important role on the water resources and on their relationships with food, energy, biodiversity, ecosystem functioning and human health. *Water* invites authors to provide innovative original full articles, critical reviews and timely short communications and to propose special issues devoted to new technological and scientific domains and to interdisciplinary approaches of the water cycles. We ensure a critical review process and a quick turnaround between submission and final decision.

## Editor-in-Chief

Dr. Jean-Luc PROBST
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