

# BDR SEMINAR via Zoom

## Matteo Cerri

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**Friday, June 24, 2022**

16:00-17:00

Meeting URL will be announced on the event day by e-mail.

※This seminar is open only to BDR members.

## Exploiting hibernation: from animals to humans

This seminar is a part of the QMIN project seminar series.

### Summary

Hibernation is a peculiar state that mammals like the bear, the squirrel, the bat, and many others can activate to survive long period of scarcity of resources. Hibernation is characterized by long bouts of drastic metabolic suppression, called torpor, separated by brief interbout arousals. During torpor, metabolism is actively suppressed, leading to a parallel reduction in body temperature, heart rate, and EEG activity and to many physiological adaptations in all the organs and systems. Because of these adaptations, the possibility to mimic torpor in humans would have a tremendous impact on many medical fields, but also on the human exploration of deep space. Both ESA and NASA have now activated programs that aim at understanding the mechanism of torpor. In this seminar, we will illustrate what is torpor/hibernation, what physiological changes are provoked by torpor, how torpor could be mimicked in non-hibernating animals, and what evidence do we have that support the idea to induce torpor in humans.



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