

## **Theory: Lessons from gravitational physics and beyond: how can we rethink space, time and causal order?**

*Tuesday, September 5, 2023 2:15 PM (15 minutes)*

The first part of this contribution highlights the main results of the ERC project PROTEUS with regard to the conceptual difficulties encountered in current quantum gravity approaches. The second part of the talk is devoted to the discussion of more recent work on the foundations of quantum gravity with emphasis on their impact on the philosophical understanding of space, time and causal order. Perspective research at the intersection of philosophy and cosmology is discussed and current projects and networks are presented, emphasizing the relevance of the study of gravitational waves and its implications.

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**Session Classification:** Parallel Sessions