

ERC PROTEUS – Final conference

“Perspectives on Time and Atemporality in Cosmology and Natural Sciences”

Sala Napoleonica, Palazzo Greppi, via Sant’Antonio 12

20122 Milan

Monday 17 July 2023

9:45 – 10:00 *Welcome*

Chair: **Álvaro Mozota**

10:00 – 11:15 **Jeremy Butterfield** “En route to reduction: Lorentzian manifolds and causal sets”

11:30 – 12:45 **Richard Dawid** “Emergent time and exact dualities”

Lunch

Chair: **Marco Forgione**

14:00 – 15:15 **Sebastian de Haro** “On Time and Holes in de Sitter Spacetimes”

Coffee Break

15:45 – 17:00 **Julian Barbour** “Complexity and a Dynamical Arrow of Time”

17:00 – 19:00 *Book Symposium*

Enrico Cinti and **Marco Sanchioni** “I paradossi dei buchi neri. Una spiegazione elementare per comprendere l’universo” (Carocci 2022).

The event is open to the public.

Tuesday 18 July 2023

Chair: **Istvan Szapudi**

9:30 – 10:45 **Francesca Vidotto** “Quantum Cosmology with no time from covariant Loop Quantum Gravity”

Coffee Break

11:15- 12:30 Presentation of results: **PROTEUS Research Team**

Lunch

Chair: **Federico Viglione**

14:30 - 15:45 **Emily Adlam** “The Temporal Asymmetry of Influence is Not Statistical”

Coffee Break

16:15 – 17:30 **Giulia Rubino** “Theory Independent Tests of Indefinite Causality”

Conference dinner

Wednesday 19 July 2023

Chair: Nicola Bamonti

9:30 – 10:45 **Vincent Lam** “Universality and Effective Temporal Dynamics: An Epistemic Approach Agnostic to Ontology”

Coffee Break

11:15- 12:30 **Nick Huggett** “Semi-Classical Time in Quantum Cosmology”

Lunch

Chair: Silvia De Bianchi

14:30 - 15:45 **Daniele Oriti** “A Foundational Trefoil for Spacetime: Quantum Gravity, Hydrodynamics and Cosmology”

Coffee Break

16:15 – 17:30 **Salvatore Capozziello** “Noether Symmetries in Quantum Cosmology: A Selection Rule for Observable Universes”

To register please email silvia.debianchi@unimi.it by July 5, 2023