

## Session Program

Sep 22 - 25, 2019



## **The Time Machine Factory [unspeakable, speakable] on Time Travel -TM2019**

### ***Investigating the fundamental properties of physics***

Turin

Monday, 23 Sept. \* Aula Magna, Dip. di Scienze della Vita e Biologia dei Sistemi, Via Accademia  
Albertina, 13 \* Tuesday, 24 Sept.- Wednesday, 25 Sept. \* Aula Magna, Palazzo del Rettorato, Via Verdi,  
8 \* @Università degli Studi di Torino

## Wed, September 25

11:25 AM

### Investigating the fundamental properties of physics: chair Eliahu Cohen

**Session** |

**Location:** Turin, Monday, 23 Sept. \* Aula Magna, Dip. di Scienze della Vita e Biologia dei Sistemi, Via Accademia Albertina, 13 \* Tuesday, 24 Sept.- Wednesday, 25 Sept. \* Aula Magna, Palazzo del Rettorato, Via Verdi, 8 \*  
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11:25 AM - 12:10 PM

#### Superpositions of Mesoscopic Objects for Sensing Quantum Gravity and Gravitational Waves

**Speaker**

Prof. Sougato Bose

12:10 - 12:55 PM

#### Superpositions of causal orders in a timeless universe

**Speaker**

Prof. Vlatko Vedral

12:55 - 1:00 PM

#### Conjectures on SpaceTime

**Speaker**

Dr Alessandro Capurso

1:00 PM

2:20 PM

### Investigating the fundamental properties of physics: chair Ivano Ruo Berchera

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2:20 - 3:00 PM

#### Locality and causality in the Aharonov-Bohm effect

**Speaker**

Dr Chiara Marletto

3:00 - 3:30 PM

#### Pseudodensity Matrix of a quantum optical system as a tool for visualizing open timelike curves.

**Speaker**

Dr Marco Genovese

3:30 - 4:00 PM

#### Quantum enhanced correlated interferometry for Planck scale physics

**Speaker**

Dr Elena Losero

4:00 - 4:30 PM

#### Coffee BREAK

4:30 - 4:50 PM

#### Contrary Inferences for Classical Histories in the Consistent Histories Approach

**Speaker**

Dr Adamantia Zampeli

4:50 - 5:10 PM

**Conditional probabilities, relativistic quantum clocks, and the trinity of relational quantum dynamics**

**Speaker**

Dr Alexander R. H. Smith

5:10 - 5:30 PM

**Quantum field theories with quantum causal structure**

**Speaker**

Dr Ding Jia

5:30 - 5:31 PM

**Quantum entanglement near open timelike curves: theory and experimental simulation**

**Speaker**

Dr Enrico Rebufello

5:31 PM