

## ANNOUNCEMENT

### International Symposium “The nature of Time in Science and in Human Experience”

An International Symposium organized in connection with  
the XXXIV edition of Meeting for Friendship Amongst Peoples

University of San Marino  
Ancient Monastery of Santa Chiara  
Republic of San Marino  
21<sup>st</sup>-23<sup>rd</sup> August, 2013

organized by  
**EURESIS**  
**Association for the promotion of the scientific endeavour**  
**[www.euresis.org](http://www.euresis.org)**

In collaboration with  
Rimini Meeting for Friendship amongst People  
CEUR Foundation  
Republic of San Marino  
University of San Marino

The San Marino Symposia, now at the VIII edition, are a unique occasion to engage a limited number of high-level scholars in a friendly, multi-disciplinary, open-minded interdisciplinary dialogue on fundamental issues raised by contemporary science. About 10 speakers give their lectures with ample time for informal discussion involving a limited number of Guest Participants. The Symposia are organized in the broad context of the "Meeting for Friendship among the Peoples", a week-long gathering taking place each year at the end of August in the nearby city of Rimini.

The 2013 San Marino Symposium will be a two-days debate involving nine speakers discussing about “The nature of Time in Science and in Human Experience”.

Following the successful scheme adopted in the previous editions of the San Marino Symposium, the questions below will be addressed in three sessions, each involving three outstanding thinkers from both science and humanities. An additional session will be devoted to a general discussion.

#### **1. Time and Causality, current challenges**

Causation and time flow appear as the solid ground on which any form of scientific understanding can be built. However, recent investigations in markedly different fields such as quantum mechanics and neuroscience, reveal a more subtle interplay between time and causation. In parallel, philosophy has for quite some time struggled with the very notion of causation and with the extent to which causation can be applied to all phenomena. In this session we wish to discuss the notion of causation and its relationship with time. What is the link between time and causation in the realm of quantum physics? To what extent the time flow and the causal links we perceive are a neurological elaboration of reality? Is time a necessary presupposition of causation, or causation a necessary element of time? Can we coherently conceive forms of time-less causation? Is the natural world, both animate and inanimate, “causally closed”?

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## 2. Beginning, Change and Ending

The beginning of the universe, the beginning of life, the birth of an individual are dramatic manifestations of time, and in some sense mark the beginning of time itself. Similarly, their evolution and ending gauge the flow of time in different time-scales. In this session we wish to examine and compare how the concept of time emerges at these three levels: the universe as described in contemporary cosmology, the evolution of life on our planet and beyond, birth, aging and death in a single living individual. Cosmology and particle physics deal with time scales that are radically separated from any intuitive notion of time we may have: can we extend the anthropic intuition of time to those scales? Can we speak of a cosmic “dawn of time”? What controls the pace of biological evolution? What is the basis of the biological clock inside single cells and at the level of whole organisms?

## 3. Time and Human Experience

Time is a basic first-person experience of every human being. We perceive time as the context for fulfillment of purpose and meaning in our life. Memory of the past, perception of the present, hope for the future are fundamental coordinates of human existence. In this session we wish to examine time as a fundamental element of human life, both in terms of personal experience and as perceived in different cultures. What has been the perception of time in ancient civilizations? What is the typical intuition of past, present and future in today’s mentality? How are language and memory shaped to capture the notion of time? What are the theological implications of time in the Judaeo-Christian tradition? How can we describe the relationships between causality and time?

*Opening:* *Wednesday, August 21<sup>st</sup> 7.00 pm*  
*General discussion and conclusions:* *Friday August 23<sup>rd</sup>, late afternoon*  
*Symposium language:* *English*

### Invited speakers

Costantino Esposito, Dept. of Philosophy, University of Bari, Italy  
José Ignacio Latorre, Center for Quantum Technologies, National University of Singapore  
Marc Buehner, School of Psychology, Cardiff University, UK  
Hans Meinhardt, Max Planck Institute for Developmental Biology, Tübingen (Germany)  
George Ellis, Dept. of Mathematics and Applied Mathematics, University of Cape Town, South Africa  
Paul Davies, Dept. of Physics, Arizona State University, USA  
Giorgio Buccellati, COTSEN Institute of Archaeology, UCLA, USA  
Gal Zauberman, Wharton School, University of Pennsylvania, USA  
Jonah Lynch, Fraternity of St. Charles, Rome

### Guest participants

The Symposium will be open to a limited number of “guest participants” (PhD students, Post-docs, and Scholars) who will be invited to attend the seminar sessions and to participate in the discussion sessions. Some financial support covering lodging expenses are available to guest participants.

To apply for participation the candidates should prepare

- ✦ a CV including a list of selected publications and/or other activities in the field

- ^ a motivation letter pointing out the reason for the interest in the symposium, and the expected usefulness for his/her scientific background

Applicants are requested to mail the CV and the motivation letter to

[secretariat.sm@euresis.org](mailto:secretariat.sm@euresis.org)

The deadline for application is July 15<sup>th</sup>. The applicants selected by a board of experts will be informed by July 22<sup>nd</sup>.

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