

Press release n. 81

XXXIV EDITION  
MEETING FOR FRIENDSHIP AMONG PEOPLES  
*THE HUMAN PERSON: A STATE OF EMERGENCY*  
AUGUST 18-24 2013 - RIMINI FIERA

47900 Rimini, via Flaminia 18  
casella postale 106  
tel. +39 0541 783100  
fax +39 0541 786422

[www.meetingrimini.org](http://www.meetingrimini.org)  
Twitter: @meetingrimini  
Facebook: facebook.com/meetingrimini  
#meeting13

## **The nature of time, in science and human experience**

*Cosmology and quantum mechanics explained to the people*

Rimini, August 21st 2013 - "Questioning science and looking for the meaning to bring man back to himself"; this is the purpose of the meeting introduced by Marco Bersanelli, a professor of astronomy and astrophysics at the University of Milan, director of scientific Euresis and San Marino Symposia; he invited two important scientific researchers, Paul Davies and José Ignacio Latorre, to deeply investigate a fundamental issue of human experience: the nature of time. "A brave choice," he comments, "because every scientific research uses the concept of time, which deep cultural issues are grounded on, such as evolution, haphazardness and determinism."

It's appropriate to say that the speakers' scientific quality is of astronomical proportions. A theoretical physicist, cosmologist, astrobiologist and author of science communication best-sellers, Paul Davies is director of Beyond, Center for Fundamental Concepts in Science, Arizona State University, where he is also co-director of the Cosmology Initiative and Principal Investigator of the Center for Convergence of physical Science and cancer Biology. The asteroid 1992OG has been named after him in recognition of his work on the cosmic impact.

José Ignacio Latorre is a Professor of Theoretical Physics at the University of Barcelona and a visiting professor at the University of Singapore. He works on quantum physics of high energies, he is scientific researcher in the Centro de Ciencias de Benasque and a science popularizer. He created a business company based on the synchronization of atomic phones. He is also a wine producer, and his labels bore the graphics on the Higgs boson before its actual discovery.

Bersanelli then raises the question about the nature of time, in the sense of physical variable and of existential category.

The first to answer is Davies, who introduces time as a variable which represents a preferential direction of the physical phenomena: bringing the system from a state of greater order to a state of greater disorder, despite the fact that, in equations, symmetry is a trivial fact compared to time (symmetric equations are mathematically vs. time). But, as a cosmologist, he asks, "Why did the universe start with the Big Bang? Which was its

Fondazione	Foundation	Stiftung	Fondation	Fundación
<b>Meeting per l'amicizia fra i popoli</b> Prefettura di Rimini Reg. Persone Giuridiche n. 186 P.Iva 01254380403	<b>Meeting For Friendship Amongst Peoples</b> Register of juridical personalities no. 186 VAT code 01254380403	<b>Meeting für die Freundschaft unter den Völkern</b> Register juristischer Personen Nr. 186 MwSt-Nr. 01254380403	<b>Meeting pour l'amitié entre les peuples</b> Inscrite au registre des personnes morales sous le n° 186 n° de TVA: 01254380403	<b>Meeting para la amistad entre los pueblos</b> Reg. Personas Jurídicas n. 186 C.I.F. 01254380403

greater order state?" And he proposes his hypothesis: "maybe the universe is not what we think about it, but rather a small part of a larger universe, actually a multiverse, in which there have been many Big Bangs. Every time may go asymmetrically in its direction, but, comprehensively, the system is eternal."

Latorre starts by talking about the GPS system, which is based on atomic clocks and thus on quantum mechanics. In a few years the accuracy of this system will be achieved to a level of few billionths of billionths of a second, which means a precision of less than a micron in the spatial localization. Thanks to machines controlled by these systems, it will be possible to do surgical operations now unthinkable. But these wonders live together with the Uncertainty Principle: "The cause-effect relation is preserved," he states, "even if quantum mechanics introduces an intrinsic uncertainty due to the act of measuring itself. Uncertainty, but not free will, and after all quantum mechanics is not necessarily the ultimate theory." Will there ever be a scientific theory to the human experience? To the consciousness and the free will? "I do not know," he concludes.

Bersanelli sums up the exceptional interventions by recalling the uniqueness of human experience: "What seems obvious, like time, is a constant source of new questions that are addressed in the scientific world, but also outside." Indeed, what would be the nearly fourteen billion years of our universe "if man did not have at least one point, a glimmer of self-consciousness?"

Work continues in San Marino, where Bersanelli announced that "Davies and Latorre will continue their reflection together with philosophers, archaeologists, and theologians engaged in learning, which is rare, learning from each other."

(C.C.)

Portavoce e capo ufficio stampa: Stefano Pichi Sermolli  
Ufficio stampa: Valentina Gravaghi  
Tel. 0541-783100  
Mail [press@meetingrimini.org](mailto:press@meetingrimini.org)

**Fondazione Meeting per l'amicizia fra i popoli**  
[www.meetingrimini.org](http://www.meetingrimini.org)  
Twitter @meetingrimini  
[Facebook.com/meetingrimini](https://www.facebook.com/meetingrimini)