

Time and Matter 2007



Sunday 26 August 2007 - Friday 31 August 2007

Bled, Slovenia

Scientific Programme

The Conference will be divided into seven sections.

Section I: Measuring Time; talks on state-of-the-art precision in measurements, universal time and other application of very precise clocks.

Section II: Causality & Signal Propagation; review of the research in the last few years; including news on Causality and Superluminal Propagation.

Section III: Coherence, Decoherence and Entanglement; new work on Bell's inequality; entanglement role in studies of CP violation at B factories, testing of EPR correlations.

Section IV: CP and T Violation; Experimental talks on CPV in meson decays (K and B); theory talk on CP violation, baryo/leptogenesis and neutrino oscillations.

Section V: Old and New Paradigms on Quantum Gravity; quantum loop gravity, string theory, extra dimensions, black holes, two-dimensional time in classical physics and in string theory;

Section VI: Macroscopic Time Reversal, the Arrow of Time, the Big Bang Evolution and Structure Formation of the Universe; the central part of the meeting with the following topics: thermodynamic arrow of time, entropy of the universe, other arrows of time, origin of time and its error, horizon problems; inflation; landscape paradigm; microwave background studies, gravity waves, dark matter, dark energy, worm holes.

Section VII: Philosophical Perspectives on Time in Fundamental Physics; anticipated LHC physics, which will start late 2007 and will address issues of gravity, extra dimensions, dark matter; Chronobiology (addressing different time cycles in biology); time and music.