

# Questioning Fundamental Physical Principles



## Report of Contributions

Contribution ID: 0

Type: **not specified**

## Welcome

*Tuesday, May 6, 2014 9:00 AM (5 minutes)*

**Presenter:** Prof. MAVROMATOS, Nikos (University of London (GB))

**Session Classification:** Opening

Contribution ID: 1

Type: **not specified**

## **Latest on Supersymmetry, Higgs and LHC Physics**

*Tuesday, May 6, 2014 9:05 AM (30 minutes)*

**Presenter:** ELLIS, Jonathan R. (CERN)

**Session Classification:** Session I

Contribution ID: 2

Type: **not specified**

## **Discrete Symmetries T, CP and CPT**

*Tuesday, May 6, 2014 9:35 AM (30 minutes)*

**Presenter:** BERNABEU, Jose (Universidad de Valencia)

**Session Classification:** Session I

Contribution ID: 3

Type: **not specified**

## **CPT and neutrinos**

*Tuesday, May 6, 2014 10:05 AM (30 minutes)*

**Presenter:** BARENBOIM, Gabriela

**Session Classification:** Session I

Contribution ID: 4

Type: **not specified**

## **Experimental status of Supersymmetry**

*Friday, May 9, 2014 12:10 PM (30 minutes)*

**Presenter:** Dr MITSOU, Vasiliki (IFIC Valencia (ES))

**Session Classification:** Session XIV

Contribution ID: 5

Type: **not specified**

## **Experimental prospects for T and CPT symmetries tests in the B meson system**

*Tuesday, May 6, 2014 11:00 AM (30 minutes)*

**Presenter:** BEVAN, Adrian (University of London (GB))

**Session Classification:** Session II

Contribution ID: 6

Type: **not specified**

## **Testing fundamental physical principles with entangled neutral K mesons**

*Tuesday, May 6, 2014 11:30 AM (30 minutes)*

**Presenter:** DI DOMENICO, Antonio (Universita e INFN, Roma I (IT))

**Session Classification:** Session II



Contribution ID: 7

Type: **not specified**

## **Fundamental Physics results at LHCb and future perspectives**

*Tuesday, May 6, 2014 12:00 PM (30 minutes)*

**Presenter:** PASSALEVA, Giovanni (INFN Florence (IT))

**Session Classification:** Session II

Contribution ID: 8

Type: **not specified**

## **On Lorentz violation and the origin of Gravity**

*Tuesday, May 6, 2014 2:30 PM (30 minutes)*

**Presenter:** KIRITSIS, Elias (Unknown)

**Session Classification:** Session III

Contribution ID: 9

Type: **not specified**

## **Test of CPT and Lorentz symmetry with entangled $K_0$ 's**

*Tuesday, May 6, 2014 3:00 PM (30 minutes)*

**Presenter:** Dr DE SANTIS, Antonio (U. di Roma "La Sapienza")

**Session Classification:** Session III

Contribution ID: **10**

Type: **not specified**

## **Time-dependent CP violation and stability of the entangled $B B\bar{B}$ state at Belle**

*Tuesday, May 6, 2014 12:30 PM (30 minutes)*

**Presenter:** SCHWANDA, Christoph (Austrian Academy of Sciences)

**Session Classification:** Session II

Contribution ID: 11

Type: **not specified**

## **Physics with entangled neutral D mesons at BES-III and future perspectives**

*Tuesday, May 6, 2014 4:30 PM (30 minutes)*

**Presenter:** Dr LU, Xiaorui

**Session Classification:** Session IV

Contribution ID: 12

Type: **not specified**

## **Photon-photon scattering and the nature of QED vacuum: experimental approaches**

*Thursday, May 8, 2014 5:30 PM (30 minutes)*

**Presenter:** Prof. MILOTTI, Edoardo

**Session Classification:** Session XII

Contribution ID: 13

Type: **not specified**

## **The possible existence of a Time Operator and its possible refutal in meson experiments**

*Tuesday, May 6, 2014 5:30 PM (30 minutes)*

**Presenter:** Prof. DURT, Thomas

**Session Classification:** Session IV

Contribution ID: 14

Type: **not specified**

## **Inflation & Supersymmetry**

*Wednesday, May 7, 2014 9:00 AM (30 minutes)*

**Presenter:** OLIVE, Keith Alison (University of Minnesota (US))

**Session Classification:** Session V



Contribution ID: 15

Type: **not specified**

## **Higgs inflation at the critical point**

*Wednesday, May 7, 2014 9:30 AM (30 minutes)*

**Presenter:** SHAPOSHNIKOV, Mikhail (EPFL)

**Session Classification:** Session V

Contribution ID: 16

Type: **not specified**

## Testing Baryogenesis at the LHC

*Wednesday, May 7, 2014 10:00 AM (30 minutes)*

**Presenter:** MOHAPATRA, Rabindra (University of Maryland)

**Session Classification:** Session V

Contribution ID: 17

Type: **not specified**

## **Neutrinos and Leptogenesis in Early Universe**

*Wednesday, May 7, 2014 11:00 AM (30 minutes)*

**Presenter:** PASCOLI, Silvia (University of Durham (GB))

**Session Classification:** Session VI

Contribution ID: **18**

Type: **not specified**

## **Flavour and Thermal Effects on Leptogenesis**

*Wednesday, May 7, 2014 11:30 AM (30 minutes)*

**Presenter:** PILAFTSIS, Apostolos (University of Manchester)

**Session Classification:** Session VI

Contribution ID: 19

Type: **not specified**

## **Vacuum Energy and $\Lambda$ : a new perspective**

*Wednesday, May 7, 2014 12:00 PM (30 minutes)*

**Presenter:** DADHICH, Naresh

**Session Classification:** Session VI

Contribution ID: 21

Type: **not specified**

## **Strings, and CPT Violating Baryon Asymmetry in the Universe**

*Wednesday, May 7, 2014 12:30 PM (30 minutes)*

**Presenter:** SARKAR, Sarben (King's College London)

**Session Classification:** Session VI

Contribution ID: 22

Type: **not specified**

## **CPTV leptogenesis**

*Wednesday, May 7, 2014 3:10 PM (30 minutes)*

**Presenter:** MUKHOPADHYAYA, Banibrata

**Session Classification:** Session VII

Contribution ID: 23

Type: **not specified**

## **flavor neutrino states and quantum entanglement**

*Wednesday, May 7, 2014 3:40 PM (30 minutes)*

**Presenter:** BLASONE, M.

**Session Classification:** Session VII



Contribution ID: 24

Type: **not specified**

## **Questioning causality, unitarity and CPT in curved spacetime QFT**

*Friday, May 9, 2014 9:00 AM (30 minutes)*

**Presenter:** SHORE, Graham Martin (Swansea University (GB))

**Session Classification:** Session XIII

Contribution ID: 25

Type: **not specified**

## **The Continuing Quest for the Magnetic Monopole**

*Friday, May 9, 2014 9:30 AM (30 minutes)*

**Presenter:** PINFOLD, James (University of Alberta (CA))

**Session Classification:** Session XIII

Contribution ID: 26

Type: **not specified**

## **Lorentz breaking effective field theories: phenomenology and constraints**

*Friday, May 9, 2014 10:00 AM (40 minutes)*

**Presenter:** LIBERATI, Stefano

**Session Classification:** Session XIII

Contribution ID: 27

Type: **not specified**

## **Probing the space-time structure: the holometer experiment at Fermilab**

*Thursday, May 8, 2014 9:30 AM (45 minutes)*

**Presenter:** HOGAN, Craig

**Session Classification:** Session IX

Contribution ID: 28

Type: **not specified**

## **The most precise tests of the standard model and its symmetries**

*Thursday, May 8, 2014 2:45 PM (45 minutes)*

**Presenter:** GABRIELSE, Gerald (Harvard University (US))

**Session Classification:** Session XI

Contribution ID: 29

Type: **not specified**

## **Hyperfine structure of antihydrogen in ASCUSA**

*Thursday, May 8, 2014 11:15 AM (30 minutes)*

**Presenter:** WIDMANN, Eberhard (Austrian Academy of Sciences (AT))

**Session Classification:** Session X

Contribution ID: 30

Type: **not specified**

## **Physics of ASACUSA: the spectroscopy of antiprotonic helium**

*Thursday, May 8, 2014 11:45 AM (30 minutes)*

**Presenter:** Prof. HAYANO, Ryugo (University of Tokyo (JP))

**Session Classification:** Session X

Contribution ID: 31

Type: **not specified**

## Antihydrogen physics with ALPHA

*Thursday, May 8, 2014 12:15 PM (30 minutes)*

**Presenter:** CHARLTON, Michael (Swansea University)

**Session Classification:** Session X



Contribution ID: 32

Type: **not specified**

## **VIP-2 at Gran Sasso - an experiment to test the Pauli Principle for electrons**

*Wednesday, May 7, 2014 6:05 PM (30 minutes)*

**Presenter:** MARTON, Johann (Oesterreichische Akademie der Wissenschaften)

**Session Classification:** Session VIII

Contribution ID: 33

Type: **not specified**

## **The ELENA project at CERN**

*Thursday, May 8, 2014 12:45 PM (30 minutes)*

**Presenter:** OELERT, Walter (Johannes-Gutenberg-Universitaet Mainz (DE))

**Session Classification:** Session X

Contribution ID: 34

Type: **not specified**

## Overview of Physics results at CMS

*Thursday, May 8, 2014 3:30 PM (30 minutes)*

**Presenter:** CLERBAUX, Barbara (Inter-University Institute for High Energies (BE))

**Session Classification:** Session XI

Contribution ID: 35

Type: **not specified**

## Overview of Physics results at ATLAS

*Thursday, May 8, 2014 4:00 PM (30 minutes)*

**Presenter:** Prof. LUBATTI, Henry (University of Washington (US))

**Session Classification:** Session XI

Contribution ID: 36

Type: **not specified**

## on dark photon searches

*Thursday, May 8, 2014 5:00 PM (30 minutes)*

**Presenter:** KUPSC, Andrzej

**Session Classification:** Session XII

Contribution ID: 37

Type: **not specified**

## **Prospects for studies of discrete symmetries with positronium**

*Tuesday, May 6, 2014 3:30 PM (30 minutes)*

**Presenter:** MOSKAL, Pawel (Jagiellonian University)

**Session Classification:** Session III

Contribution ID: 38

Type: **not specified**

## **Tests of fundamental principles**

*Friday, May 9, 2014 11:10 AM (30 minutes)*

**Presenter:** LAEMMERZAHN, C.

**Session Classification:** Session XIV

Contribution ID: 40

Type: **not specified**

## **Recent developments in Collapse Models**

*Wednesday, May 7, 2014 4:10 PM (30 minutes)*

**Presenter:** BASSI, Angelo

**Session Classification:** Session VII



Contribution ID: 41

Type: **not specified**

## **CP violation and quantum entanglement and possible spontaneous collapses of the wave function**

*Wednesday, May 7, 2014 5:05 PM (30 minutes)*

**Presenter:** HIESMAYR, Beatrix (University of Vienna)

**Session Classification:** Session VIII

Contribution ID: 42

Type: **not specified**

## **X-ray experiments to test collapse models**

*Wednesday, May 7, 2014 5:35 PM (30 minutes)*

**Presenter:** CURCEANU, Catalina (LNF-INFN)

**Session Classification:** Session VIII

Contribution ID: 43

Type: **not specified**

## **Improving interferometers by quantum light: is possible testing quantum gravity on an Optical bench?**

*Thursday, May 8, 2014 10:15 AM (30 minutes)*

**Presenter:** GENOVESE, Marco (Universita degli Studi di Torino)

**Session Classification:** Session IX

Contribution ID: 44

Type: **not specified**

## **Boson Sampling via integrated quatum photonics**

*Thursday, May 8, 2014 9:00 AM (30 minutes)*

**Presenter:** SCIARRINO, Fabio

**Session Classification:** Session IX

Contribution ID: 46

Type: **not specified**

## **Some general results on CP and CPT violating parameters determined from $C=-1$ and $C=+1$ entangled states**

*Tuesday, May 6, 2014 5:00 PM (30 minutes)*

**Presenter:** Prof. SHI, Yu

**Session Classification:** Session IV

Contribution ID: 47

Type: **not specified**

## **The AEGIS experiment at the CERN antiproton decelerator**

*Friday, May 9, 2014 11:40 AM (30 minutes)*

**Presenter:** DOSER, Michael (CERN)

**Session Classification:** Session XIV

Contribution ID: 49

Type: **not specified**

## 50 years of CP violation

*Friday, May 9, 2014 12:40 PM (20 minutes)*

**Presenter:** STEINBERGER, Jack (Sezione di Pisa (IT))

**Session Classification:** Closing: 50 years of CP Violation