

# Central European Joint Programme of Doctoral Studies: School on Particle Physics, Gravity and Cosmology

Dubrovnik, 21 August – 2 September 2006

**1st week workshop: "Interface between Cosmology and Particle Physics"**

**2nd week workshop: "Particle Physics, Gravity and String Theory"**

*The School is organised by: Physics Department, Faculty of Science, University of Zagreb, Croatia and International School for Advanced Studies (SISSA), Trieste, Italy in collaboration with Institute Ruder Bošković, Zagreb, Croatia.*

*The School is part of Central European Joint Programme of Doctoral Studies in Theoretical Physics (Particle Physics, Gravity and Cosmology). The collaborating institutions in the programme are: Comenius University Bratislava (Faculty of Physics, Mathematics and Informatics); Eötvös University, Budapest; University of Ljubljana; University of Padua; Charles University, Prague (Faculty of Mathematics and Physics); International School for Advanced Studies (SISSA), Trieste; University of Trieste; University of Vienna (Faculty of Physics); University of Zagreb (Faculty of Science - PMF).*

The School consists of level-up courses intended for PhD students, as well as updating courses for postdocs and researchers. In addition, a few propaedeutical crash courses will be organized to bridge the gaps in the attendance and to facilitate an active participation. The courses will be held on the blackboard. The audience is assumed to have at least a PhD student level either in phenomenological particle theory, in astroparticle physics or in field and string theory. One of the aims of the School is to bring together researchers of these different areas and to update them on one another's discipline.

## Interface between Cosmology and Particle Physics

### Courses

W. GRIMUS and S. PETCOV: Neutrino Phenomenology  
A. MASIERO and F. FERUGLIO: Beyond the Standard Model  
M. DREES\*: Introduction to Dark Matter  
N. BILIĆ: Black Hole Phenomenology

## Particle Physics, Gravity and String Theory

### Courses

R. BRANDENBERGER: Advanced Topics in Cosmology  
J. ZANELLI: Black Hole Physics  
C. NÚÑEZ: Strings–Gauge Correspondence  
A. JEVICKI: AdS/CFT  
G. DALL'AGATA: String Vacua and Moduli Stabilization  
C. BURGESS: Cosmology and Strings  
In addition a course on black holes and strings is planned.

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\* to be confirmed

The seminars to be held during the School are:

### **Seminars**

- D. DENEGRI: New Physics at LHC
- D. WARK: Neutrino Experiments
- C. BACCIGALUPI: Review on Cosmological Experiments
- A. MUELLER: Experimental Evidence of Black Holes
- S. LIBERATI: Astrophysical Constraints on Lorentz Violation

In addition the following introductory courses are planned:

### **Introductory courses**

- M. BERTOLINI: Propaedeutical Course in Supersymmetry
- T. PROKOPEC: Propaedeutical Course in Cosmology
- G. BONELLI: Propaedeutical Course of String Theory
- M. SERONE: Propaedeutical Course on Physics of Extra Dimensions

### **International Advisory Board:**

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**Deadline for applications: 31 May 2006**

## Sponsors:

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- Ministry of Science, Education and Sports of Republic of Croatia;
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- The City of Dubrovnik

