

**COLLOQUE at the Colegio de España**

**Cité Internationale Universitaire de Paris,  
75014 Paris**

**PHYSICS OF THE STANDARD MODEL OF  
THE UNIVERSE:  
THEORY AND OBSERVATIONS**



**7E Boulevard Jourdan, 75014 Paris**

**Thursday 4 and Friday 5 JUNE 2009**



**Sessions start at the indicated times sharp**

# THURSDAY 4 JUNE MORNING

**8.30 - 9.05 Registration**

**9.10 - 9.30 Welcome Address**

**9.30 - 10.30 Maria Cristina FALVELLA** (Agenzia Spaziale Italiana, Rome, Italy)

*Measurements of the CMB by the PLANCK satellite and their implications*

**10.30 - 11.00 COFFEE-TEA BREAK** at the Restaurant terrace of Colegio de España located at the lower ground floor

**11.00 - 12.00 Félix MIRABEL** (ESO European Southern Observatory, Chile & CEA/Saclay, France)

*Black Holes in the Universe*

**12.00 - 13.00 Héctor J. de VEGA**, Univ. Paris VI, LPTHE & CNRS, Paris, France

*The Effective Theory of Inflation, Dark Matter and Dark Energy in the Standard Model of the Universe*

**13.00 - 14.00 LUNCH** at the self-service Restaurant of Colegio de España located in the lower ground floor.

## THURSDAY 4 JUNE AFTERNOON

**14.30 - 15.30 Didier BARRET** (Centre d'Etudes Spatiales CESR & CNRS, Toulouse, France)

*"The International X-ray Observatory - Probing Strong Gravity and Dense Matter in the Next Decade"*.

**15.30 - 16.30 Dmitri SEMIKOZ** (APC Univ Paris 7 & CNRS, Paris, France)

*The Highest Energy Cosmic Rays*

**16.30 - 17.00 COFFEE-TEA BREAK** at the Seminar Room of Colegio de España located in the ground floor aside the Conference Room

**17.00 - 18.00 Fernando ARQUEROS** (Dpto. Fisica Atomica, Univ. Complutense de Madrid, Spain)

*The Pierre AUGER Observatory. Last Results*

**18.00 - 19.00 Marco CIRELLI** (SPhT - CEA/Saclay & CNRS, Gif-sur-Yvette, France)

*Model-independent implications of  $e^+$ ,  $e^-$ , anti-protons on the properties of Dark Matter and the PAMELA data*

## FRIDAY 5 JUNE MORNING

**9.30 - 10.30 Sergio PASTOR** (CSIC Univ Valencia, Valencia, Spain)

*Neutrinos in the Early Universe*

**10.30 - 11.00 COFFEE-TEA BREAK** at the Restaurant terrace of Colegio de España located in the lower ground floor

**11.00 - 12.00 Claudio DESTRI** (INFN & Univ. Milano-Bicocca, Milan, Italy)

*Monte Carlo Markov Chain Analysis of CMB+LSS data with the Effective Field Theory of Inflation and the early fast-roll stage*

**12.00 - 13.00 Francisco J. CAO** (Univ Complutense de Madrid, Madrid, Spain)

*Quantum slow-roll and quantum fast-roll inflation: CMB quadrupole suppression and the low CMB multipoles*

**13.00 - 14.00 LUNCH** at the self-service Restaurant of Colegio de España located in the lower ground floor.

## FRIDAY 5 JUNE AFTERNOON

**14.30 - 15.30 Etienne PARIZOT** (APC Univ Paris 7, Paris, France)

*Highest Energy Cosmic Rays: Current Status and Perspectives*

**15.30 - 16.30 Philippe GORODETZKY** (APC Univ Paris 7, Paris, France)

*The Extreme Universe Space Observatory on board ISS (JEM-EUSO) : current status and Perspectives*

**16.30 - 17.00 COFFEE-TEA BREAK** at the Seminar Room of Colegio de España located in the ground floor aside the Conference Room

**17.00 - 18.00 Norma G. SANCHEZ** (Observatoire de Paris LERMA & CNRS, Paris, France)

*Understanding of Inflation, Dark Matter and Dark Energy in the Standard Model of the Universe*

**18.00 - 19.00 George F. Smoot** (LBL Univ California, Berkeley, CA, USA) *“CMB Observations in the Standard Model of the Universe”*

*Wine and “Tapas” offered by the Colegio de España in the honor of all participants*

**END OF THE CONFERENCE**