École Internationale Daniel Chalonge

14th Paris Cosmology Colloquium 2010

THE STANDARD MODEL OF THE UNIVERSE: THEORY AND OBSERVATIONS

George Smoot, Nobel Prize of Physics and Daniel Chalonge Medal

OBSERVATOIRE DE PARIS, PARIS CAMPUS

Thursday 22, Friday 23, Saturday 24 July 2010

PROGRAMME and LECTURERS INCLUDE

- **Peter BIERMANN** (MPI-Bonn, Germany & Univ of Alabama, Tuscaloosa, USA) Astrophysical Dark Matter
- **Daniel BOYANOVSKY** (Univ. of Pittsburgh, Dept of Physics and Astronomy, USA) keV Dark Matter Particle Candidates: sterile neutrinos
- **Asantha COORAY** (Univ. of California, Irvine, USA) First Large-scale Structure and Cosmological Results from ATLAS and HerMES surveys with Herschel Observatory
- **Claudio DESTRI** (INFN Univ. Milano-Bicocca Dpt. di Fisica, Italy) Fast-roll eras in the Effective Theory of Inflation, low CMB multipoles and MCMC analysis of the CMB+LSS data.
- **Hector J. DE VEGA** (CNRS LPTHE Univ de Paris VI, France) The Effective Theory of Inflation, and keV dark Matter in the Standard Model of the Universe
- **Carlos S. FRENK** (Institute for Computational Cosmology, Durham, UK) Small and Large Scale Structure in the Standard Model of the Universe
- **Gerard F. GILMORE** (Institute of Astronomy, Cambridge University, UK) Dark Matter on Small Astrophysical Scales
- **Paolo GIOMMI** (ASI Science Data Center, Italian Space Agency, Frascati, Italy) Correlations between current satellite data and Planck data
- **Yannick MELLIER** (Institut d'Astrophysique de Paris, Paris, France) Gravitational lensing and its Implications
- **Stefan GOTTLÖBER** (Astrophysikalisches Institut Potsdam, Potsdam, Germany) Constrained Local Universe Simulations (CLUES)
- **Eiichiro KOMATSU** (Univ of Texas, Dept of Astronomy, Austin, USA) The WMAP 7-years Results: Cosmological Interpretation
- **Anthony N. LASENBY** (Cavendish Laboratory, Cambridge, UK) The CMB in the Standard Model of the Universe: A Status Report
- **Stacy S. Mc GAUGH** (Astronomy Dept, Univ of Maryland, College Park, MD, USA) The Baryon content of Cosmic Structures and its relation to Dark Matter
- **Reno MANDOLESI** (INAF-IASF, Bologna, Italy) & **Maria Cristina FALVELLA** (ASI-Rome, Italy) Measurements of the CMB by the PLANCK satellite and their Implications
- **Félix MIRABEL** (CEA-Saclay, France & IAFE-Buenos Aires, Argentina) Cosmic evolution of stellar black holes and the end of the dark ages
- **Rafael REBOLO** (Instituto Astrofisico de Canarias, Tenerife, Spain) CMB Polarization: The QUIJOTE CMB Experiment
- **Bernard SADOULET** (Particle Cosmology Group, Univ of California, Berkeley, USA) Status Report on Dark Matter Searches
- **Paolo SALUCCI** (SISSA-Astrophysics, Trieste, Italy) Universality Properties in Galaxies and Cored Density Profiles
- **Norma G. SANCHEZ** (CNRS LERMA Observatoire de Paris, France) Predictions of the Effective Theory of Inflation and keV Dark Matter in the Standard Model of the Universe
- **George SMOOT** (LBL, Univ. of California, Berkeley, USA) CMB Observations and the Standard Model of the Universe
- **Anton TIKHONOV** (Saint-Petersburg State Univ, RUSSIA) "Sizes of minivoids and Tully-Fisher relation in the Local Volume: another ¤CDM-overabundance problem and its possible solutions"
- **And Other LECTURERS**

PURPOSE and TOPICS

The Conference is within the astrofundamental physics spirit of the Chalonge School, focalized on recent observational and theoretical progress on the CMB, dark matter, dark energy, dark ages, and the theory of the early universe with predictive power in the context of the Standard Model of the Universe.

In summary, the aim of the meeting is to put together real cosmological data and hard theory predictive approach connected to them in the framework of the Standard Model of th Universe.

An exhibition will retrace the activity of the Chalonge School and George Smoot participation to the School along these 19 years.

A tour of Perrault building guided by Suzanne DEBARBAT will take place around an exibition of the historical patrimony of Observatoire de Paris.

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