École Internationale Daniel Chalonge

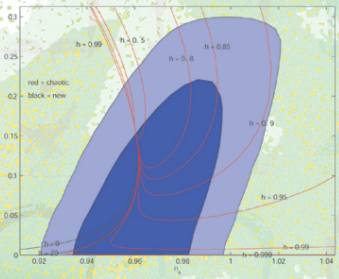
11th Paris Cosmology Colloquium 2007

DARK MATTER, DARK ENERGY, CMB and LSS : UNDERSTANDING THE PHYSICS OF THE UNIVERSE

George Smoot, Nobel Prize of Physics 2006 and Daniel Chalonge Medal

OBSERVATOIRE DE PARIS, PARIS CAMPUS

Thursday **16**, Friday **17**, Saturday **18** August 2007



PROGRAMME and LECTURERS INCLUDE

- **Peter BIERMANN** (MPI-Bonn): The Nature of Light Dark Matter
- **Daniel BOYANOVSKY** (Pittsburgh Univ): The Effective Field Theory of Inflation confronted to CMB and LSS observations.
- **Douglas CLOWE** (Ohio Univ): A Direct Observational Proof of the Existence of Dark Matter
- **Sergio COLAFRANCESCO** (Osservatorio di Roma): Microwave Tomography of Large Scale Structures: the role of the SZ effect on DM, DE, CMB and LSS
- **Hector J. DE VEGA** (LPTHE Univ Paris VI): Dark Energy from the cosmological quantum vacuum of light particles in the Standard Model
- **Carlos FRENK** (ICC, Univ Durham) : The Large Scale Structure of the Universe
- **Massimo GIOVANNINI** (CERN & Milano Bicocca) : Magnetized CMB Anisotropies
- **Alexander KUSENKO** (UCLA, Los Angeles) : Dark Matter in the Neutrino Sector
- **Anthony LASENBY** (MRAO CL Cambridge UK): CMB Anisotropies and Polarisation: Status Report and Future Perspectives.
- **Reno MANDOLESI** (IASF Bologna): The PLANCK Mission and its Science Objectives
- **Patrick MCDONALD** (CITA, Toronto): Dark Matter Clustering and Renormalization Group Methods
- **Alessandro MELCHIORRI** (Univ di Roma 1): New Constraints on the Dark Side of the Universe
- **Ben MOORE** (ITP Univ Zurich): Small Scale Structure as a Constraint on the Nature of Dark Matter
- **Julio NAVARRO** (Univ Victoria, Vancouver): The Small Scale Structure of the Universe: Structure and Substructure of Cold Dark Matter Halos
- **Yoel REPHAELI** (Tel Aviv Univ & UCSD San Diego): The Sunayev-Zeldovich Effect in Cosmology
- **Bernard SADOULET** (LBL, UCB Berkeley): Deciphering the Nature of Dark Matter
- **Ariel G. SANCHEZ** (Observatorio de Cordoba, Argentina): The Galaxy Power Spectrum: 2dFGRS-SDSS Tension?
- **Norma G. SANCHEZ** (Observatoire de Paris) : Understanding Inflation and Dark Energy in the Standard Model of the Universe
- **Mikhail SHAPOSHNIKOV** (EPFL Lausanne): Sterile Neutrino Dark Matter and the ν-MSM
- **George F. SMOOT** (LBL, UCB Berkeley): CMB Observations and the Standard Model of the Universe

... And Other Lecturers

PURPOSE AND TOPICS

The Conference is within the astrofundamental physics spirit of the Chalonge School, this time focalized on recent observational and theoretical progress on dark matter, dark energy, including neutrinos and sterile neutrinos, CMB WMAP data and the theory of the early universe with predictive power.

In summary, the aim of the meeting is to put together real cosmological data and hard theory predictive approach connected to them.

Topics: Observational and theoretical progress in deciphering the nature of dark matter and dark energy . Large scale structure formation. Inflation after WMAP (in connection with the CMB and LSS data), quadrupole suppression and initial conditions; quantum effects. CMB polarization, primordial magnetic fields effects. Neutrinos in cosmology.
The Meeting is open to all scientists interested in the subject. Information and on line registration at: **http://www.obspm.fr/chalonge**

The format of the Meeting is intended to allow easy and fruitful mutual contact and communication.

An exhibition will retrace the 15 years of activity of the Chalonge School and George Smoot participation to the School along these 15 years.

A tour of Perrault building guided by **Suzanne DEBARBAT** (SYRTE-Observatoire de Paris) will take place around an exibition of the historical patrimony of Observatoire de Paris

l'Observatoire de Paris LERMA

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