

Ecole Internationale Daniel Chalonge

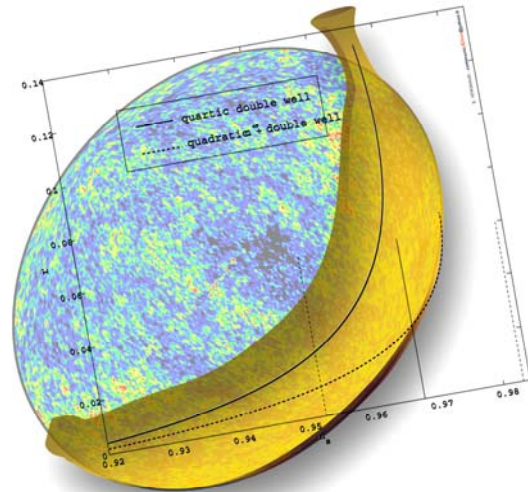
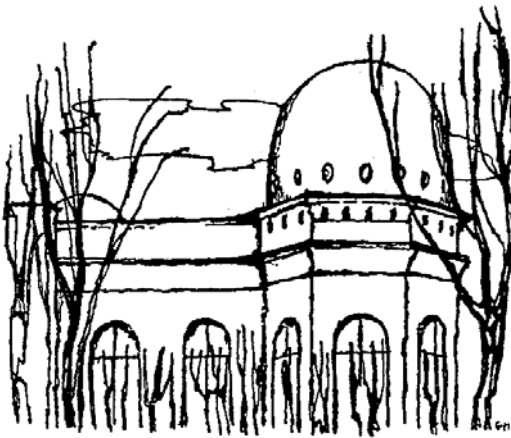


The 15th Paris Cosmology Colloquium 2011

FROM COLD DARK MATTER TO WARM DARK MATTER IN
THE STANDARD MODEL OF THE UNIVERSE:
THEORY AND OBSERVATIONS

The International School Daniel Chalonge: 20 Years of Activity

OBSERVATOIRE DE PARIS 20, 21, 22 JULY 2011



All Sessions of the Colloquium take place
in the historic PERRAULT building ("Bâtiment PERRAULT").

Observatoire de Paris ENTRY :

77, Avenue Denfert Rochereau, 75014 Paris

Sessions start at the indicated times sharp

1 HOUR = 45 minutes lecture + 15 minutes discussions

Observatoire de Paris, Ecole Daniel Chalonge

Tel: 01 40 51 20 07 Fax: 01 40 51 20 02 Chalonge.Ecole@obspm.fr <http://chalonge.obspm.fr>

WEDNESDAY 20 JULY MORNING

8.00 - 9.10 GRANDE GALERIE (*in Perrault building just aside Salle du Conseil*) **REGISTRATION:** badges, lunch tickets for the Observatoire Restaurant, copies of the full Time Table with Lectures and Lecturers. *Exhibition*

« SALLE CASSINI »

9.15 - 9.30 Welcome Address

9.30 - 10.30 Anthony N. LASENBY (Cavendish Lab. Cambridge, UK) *The CMB in the Standard Model of the Universe: A Status Report*

10.30 - 11.30 Alan KOGUT (NASA Godard Space Flight Center, Greenbelt, MD, USA) *Testing the Standard Model of the Universe with the Primordial Inflation Explorer*

11.30 - 12.00 COFFEE-TEA-MATE BREAK at SALLE DU CONSEIL, *in Perrault building, downstairs of Salle Cassini.*

12.00 - 13.00 Hector J. DE VEGA (CNRS LPTHE UPMC Paris, France) *The Standard Model of the Universe: The Effective Theory of Inflation. Warm Dark Matter from theory and observations.*

13.00 - 14.30 LUNCH BREAK, *Observatoire Restaurant (Building B, ground floor)*

WEDNESDAY 20 JULY AFTERNOON

« SALLE CASSINI »

14.30 - 15.30 **Peter BIERMANN** (MPI-Bonn, Germany & Univ of Alabama, Tuscaloosa, USA)
Astrophysical Warm Dark Matter

15.30 - 16.30 **Daniel BOYANOVSKY** (Univ. of Pittsburgh, Dept of Physics and Astronomy, USA)
Sterile Neutrinos as Warm Dark Matter Candidates.

16.30 - 17.00 **COFFEE-TEA-MATE BREAK** at **SALLE DU CONSEIL**, in Perrault building, downstairs of Salle Cassini.

17.00 - 18.00 **Manfred LINDNER** (Max Planck Institut für Kernphysik, Heidelberg, Germany)
keV Sterile Neutrinos as Dark Matter

18.00 - 19.00 **Christian WEINHEIMER** (Institut für Kernphysik Universität Münster, Münster, Germany)
Absolute Scale of the Neutrino Mass and the Search for Neutrinoless Double Beta Decay.

19.00 - 20.00 **Pasquale BLASI** (INAF/Arcetri Astrophysical Observatory, Firenze, Italy)
Astrophysical Origin of the Positron Excess in Cosmic Rays

THURSDAY 21 JULY MORNING

« SALLE CASSINI »

9.30 - 10.30 **Gerard F. GILMORE** (Institute of Astronomy, Cambridge University, UK)

Observational Properties of Dark Matter on Small Astrophysical Scales.

10.30 - 11.30 **Sylvaine TURCK-CHIEZE** (SAp/IRFU/CEA Saclay, Gif sur Yvette, France)

Helioseismology, Neutrinos and Dark Matter

11.30 - 12.00 **PHOTO OF THE GROUP** *on the meridian of Paris in the middle of the monumental south entry of the Perrault building*

& COFFEE-TEA-MATE BREAK at SALLE DU CONSEIL in Perrault building, downstairs of Salle Cassini.

12.00 - 13.00 **Joanna DUNKLEY** (Oxford Univ, Astrophysics, UK) *Cosmological Implications of the Atacama Cosmology Telescope Results*

13.00 - 14.30 **LUNCH BREAK, Observatoire Restaurant (Building B, ground floor)**

THURSDAY 21 JULY AFTERNOON

« SALLE CASSINI »

14.30 - 15.30 Alexei SMIRNOV (Abdus Salam ICTP, Trieste, Italy) *Status of the Theory of Neutrino Masses and Mixings*

15.30 - 16.30 Steen HANNESTAD (University of Aarhus, Denmark) *Neutrino Physics from Precision Cosmology*

16.30 - 17.00 COFFEE-TEA-MATE BREAK at SALLE DU CONSEIL, in Perrault building, downstairs of Salle Cassini.

17.00 - 18.00 Félix MIRABEL (CEA-Saclay, France & IAFE-Buenos Aires, Argentina) *Astrophysical Black Holes and the Re-ionization of the Universe*

18.00 - 19.00 Alexander KASHLINSKY (NASA Goddard Space Flight Center, Greenbelt, MD, USA) *Measuring Large Scale Flows of X-ray Luminous Galaxy Clusters.*

19.00 - 20.00 **CHAMPAGNE - Delikatessen**

FRIDAY 22 JULY MORNING

« SALLE CASSINI »

9.30 - 10.30 Philippe ANDRE (CEA/DSM/IRFU Saclay
Orme des Merisiers, Gif-sur-Yvette, France)

*From the Filamentary Structure of the Interstellar Medium to
Prestellar Cores to the Stellar Initial Mass Function: Recent
Herschel Results*

10.30 - 11.30 Asantha COORAY (University of California,
Irvine, USA)

*The Herschel-SPIRE Legacy Survey (HSLs): Cosmological
and Dark Matter Implications*

11.30 - 12.00 COFFEE-TEA-MATE BREAK at SALLE
DU CONSEIL in Perrault building, downstairs of Salle
Cassini.

12.00 - 13.00 Carlo BURIGANA & Reno MANDOLESI
(INAF-IASF, Bologna, Italy)

*The Planck satellite: from the first astrophysical results to
cosmological promises*

13.00 - 14.30 LUNCH BREAK, Observatoire Restaurant
(Building B, ground floor)

FRIDAY 22 JULY AFTERNOON

« SALLE CASSINI »

14.30 - 15.30 *Warm Dark Matter poster presentations* by **Ayuki KAMADA** (IPMU, Univ Tokyo, Japan) and **Sinziana PADUROIU** (Observatoire. de Genève, Switzerland)

15.30 - 16.30 **Norma G. SANCHEZ** (CNRS LERMA Observatoire de Paris, France) *The primordial banana of the Universe from WMAP to Planck. Warm Dark Matter from primordial fluctuations and observations.*

16.30 - 17.00 **COFFEE-TEA-MATE BREAK** at **SALLE DU CONSEIL**, *in Perrault building, downstairs of Salle Cassini.*

OPEN SESSION : 17.00 -19.30

17.00 - 18.00 **George SMOOT** (BCCP LBL Berkeley, IEU Seoul, Univ Paris Diderot USA)
General Lecture: The Standard Model of the Universe

18.00 – 19.00 **John C.MATHER** (NASA Goddard Space Flight Center, Greenbelt, MD, USA, Nobel prize of Physics)
Special Lecture: The James Webb Space Telescope

19.00- 19.30 *The Daniel Chalonge Medal : A Surprise Award*

19.30 - 20.00 *Tour of the historic Perrault building guided by Prof. Suzanne DEBARBAT (SYRTE-Observatoire de Paris) around the subject “ Urbain Le Verrier and the discovery of Neptune at Paris Observatory” and Exhibition.*

20.00 - 22.00 **APERITIF/COCKTAIL** at SALLE DU CONSEIL *in Perrault building, downstairs of Salle Cassini, for all participants and accompanying persons*

END OF THE COLLOQUIUM

All Lecturers and participants are expected to remain until the end of the Colloquium

