

Ecole Internationale Daniel Chalonge



The 19th Paris Cosmology Colloquium 2015

*In honor of Héctor J. de Vega the scientist
and the human person*

**Latest News from the Universe: Warm Dark Matter
Cosmology: CMB, Dark Matter, Dark Energy
and Sterile Neutrinos**

The International School Daniel Chalonge: 24 Years of Activity

Observatoire de Paris 22, 23, 24 July 2015



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

Observatoire de Paris ENTRY: 77, Avenue Denfert Rochereau, 75014 Paris

All Sessions start at the indicated times sharp

Observatoire de Paris, Ecole Daniel Chalonge Tel : 01 40 51 22 21

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<http://chalonge.obspm.fr>

1 HOUR = 45 minutes lecture + 15 minutes discussion

WEDNESDAY 22 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** (Chalonge Medal, Cavendish Laboratory, Cambridge, UK)
CMB Observations and its implications: A Status Report

10.30 - 11.30 Peter **BIERMANN** (Chalonge Medal, MPI-Bonn, Germany & Univ of Alabama, Tuscaloosa, USA)
Cosmological and astrophysical signatures of Warm Dark Matter.

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

12.00 - 13.00 Héctor J. **DE VEGA** (CNRS LPTHE Univ de Paris VI, France)/Norma G. **SANCHEZ**
Fermionic Warm Dark Matter and the Thomas-Fermi galaxy structure theory

13.00 - 14.15 **LUNCH** *at the Observatoire Restaurant (Building B, ground floor)*

WEDNESDAY 22 JULY AFTERNOON

« SALLE CASSINI »

14.30 - 15.30 **Alessandro MELCHIORRI** (Univ. Roma 1 La Sapienza, Italy)

The cosmological data set analysis with Neutrinos and Sterile Neutrinos

15.30 - 16.30 **Paolo SALUCCI** (SISSA-Astrophysics, Trieste, Italy)

The observed structural properties of Galaxies lead to Warm Dark Matter

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

17.00 - 18.00 **Sinziana PADUROIU** (Observatoire de Geneve, Switzerland)

Numerical Simulations, Structure Formation and Evolution in Warm Dark Matter Cosmology

18.00 - 19.00 **Anastasia FIALKOV** (Département de Physique ENS Paris France)

Signatures and constraints on Warm Dark Matter scenarios from reionization, 21-cm, first galaxies

THURSDAY 23 JULY MORNING

« SALLE CASSINI »

9.30 - 10.30 **Noburo SASAO** (Center of Quantum Universe, Faculty of Science, Okayama University, Japan)

Neutrino mass spectroscopy with atoms

10.30 - 11.30 **Motohiko YOSHIMURA** (Center of Quantum Universe, Faculty of Science, Okayama University, Japan)

Neutrino physics using quantum coherence

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

12.00 - 13.00 **Christopher G.TULLY** (Dept. of Physics, Princeton University, NJ, USA)

Searching for Sterile Neutrinos with Calorimetric Methods at PTOLEMY

13.00 - 14.15 **LUNCH** at the Observatoire Restaurant (Building B, ground floor)

THURSDAY 23 JULY AFTERNOON
« SALLE CASSINI »

14.30 - 15.30 **Noriko YAMASAKI** (ISAS/JAXA, Inst. of Space & Astronautical Science, Japan Aerospace Exploration Agency, Kanagawa, Japan) *A Search for a keV Signature of Decaying Dark Matter with SUZAKU XIS and Future Missions*

15.30 - 16.30 **Casey WATSON** (Millikin Univ, Dept Physics & Astron., Decatur, Illinois, USA)
Observational Constraints on keV Sterile Neutrinos

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

17.00 - 18.00 **Asantha COORAY** (Univ. of California, Irvine, *The Extragalactic Background Light and New Results with CIBER*

18.00 - 19.00 **Gerard F. GILMORE** (Chalonge Medal, Institute of Astronomy, Cambridge University, UK)
Cosmology, Astrometry and Fundamental Physics with GAIA

19.00 - 20.00 **PHOTO OF THE GROUP** *on the meridian of Paris in the middle of the monumental south entry of the Perrault building & CHAMPAGNE - Delikatessen for all participants and accompanying persons*

FRIDAY 24 JULY MORNING

« SALLE CASSINI »

9.30 - 10.30 Nicola MENCI (INAF, Osservatorio di Roma, Roma, Italy)

Galaxy formation and Star formation in Warm Dark Matter Cosmology

10.30 - 11.30 Guido DREXLIN (NP-KIT-KACETA, Karlsruhe, Germany)

The Karlsruhe Tritium Neutrino experiment KATRIN and its Science case

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

12.00 - 13.00 Norma G. SANCHEZ (CNRS LERMA Observatoire de Paris, France)

Warm Dark Matter Galaxy Theory in agreement with observations. New Results.

13.00 - 14.15 LUNCH at the Observatoire Restaurant (Building B, ground floor) for all participants and accompanying persons

FRIDAY 24 JULY AFTERNOON

« SALLE CASSINI » OPEN SESSION

14.30 - 15.30 **George F. SMOOT III** Chalonge Medal,
Nobel prize of Physics (BCCP LBL Berkeley, USA, Univ Paris
Diderot, France)

Open Lecture Last news of the CMB

15.30 - 16.30 **Clem PRYKE** (University of Minnesota, Dept
of Physics, Minneapolis MN, USA)

BICEP/KECK

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

17.00 - 18.00 **George SONNEBORN** (NASA/Goddard Space
Flight Center, Greenbelt, MD, USA)

The James Webb Space Telescope and its Science case

18.00-19.00 *The Daniel Chalonge Medal: A Surprise Award*

Tribute to Héctor de Vega, the scientist and the human person.

19.00 - 20.00 *Tour of the historic Perrault building
starting from Salle Cassini guided by Prof. Suzanne
DEBARBAT (SYRTE-Observatoire de Paris).*

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 stay
until the end of the Colloquium**
