

**Ecole Internationale Daniel Chalonge**



**Workshop Meudon CIAS 2011**

**WARM DARK MATTER IN GALAXIES :  
THEORETICAL AND OBSERVATIONAL PROGRESSES**

**Observatoire de Paris, Château de Meudon CIAS,  
Meudon campus 8, 9 and 10 JUNE 2011**



**All Sessions of the Workshop take place in the historic Castle  
building (Château de Meudon/CIAS)**

**Observatoire de Meudon ENTRY : 5 Place Jules Janssen, 92195 Meudon**

**Entry for cars : 11 Avenue Marcelin Berthelot , 92195 Meudon**

**Sessions start/end at the indicated times sharp**

**1 HOUR = 45 minutes lecture + 15 minutes discussions**

## **WEDNESDAY 8 JUNE**

**8.00 - 9.30: URANIA HALL (in the Château building)**  
**REGISTRATION**, *badges, lunch tickets for the Observatoire Restaurant, copies of the full Time Table with Lectures and Lecturers.*

**« SALLE DE CONFERENCES DU CHATEAU »**

**9.45 - 10:00 Welcome Address**

**10.00 - 11.00 Joop SCHAYE** (Leiden University, The Netherlands) *Dark matter haloes, central AGN black holes, and the effect of baryons on the clustering of matter*

**11.00 - 11.30 COFFEE-TEA-MATE BREAK**  
**at URANIA HALL, in Château building**

**11.30 - 12.30 Paolo SALUCCI** (SISSA-Astrophysics, Trieste, Italy) *Structural properties of Galaxies and Cored Density Profiles from Galaxy observations*

**12.30 - 14.00 LUNCH** *at the Observatoire Restaurant (Meudon campus around the lac near the Château building)*

## WEDNESDAY 8 JUNE AFTERNOON

### « SALLE DE CONFERENCES DU CHATEAU »

**14.00 - 15.00** Stefano ETTORI (INAF, Osservatorio Astronomico Bologna, Italy)

*Mass profiles and concentrations in X-ray galaxy clusters*

**15.00 - 16.00** Henri Michel PLANA (Laboratorio de Astrofisica Teorica e Observacional, UESC Santa Cruz, Bahia, Brazil) *Mass Distribution in Groups of Galaxies*

**16.00 - 16.30** COFFEE-TEA-MATE BREAK at URANIA HALL, in Château building and CIAS aside Urania Hall

**16.30 - 17.30** Fedor BEZRUKOV (Ludwig-Maximilians-Universität München, Germany)

*Light sterile neutrino dark matter in extensions of the Standard Model*

**17.30 - 18.30** Shun ZHOU (Max-Planck-Heisenberg Inst., Munich, Germany)

*Supernova bound on keV-mass sterile neutrinos*

**18.30 - 19.00** Ayuki KAMADA (Institute for the Physics and Mathematics of the Universe (IPMU), Univ of Tokyo, Japan)  
*keV-mass sterile neutrino dark matter and the structure of galactic halos*

**19.00 - 19.30** Christian MONI BIDIN (Universidad de Concepción, Departamento de Astronomia, Chile)

*The lack of evidence of a Dark Matter disk in the Milky Way*

# THURSDAY 9 JUNE MORNING

## « SALLE DE CONFERENCES DU CHATEAU »

**10.00 – 11.00** **Christopher J. CONSELICE** (School for Physics and Astronomy, University of Nottingham, UK)  
*Correlations between baryons and dark matter during galaxy formation*

**11.00 – 11.30** **COFFEE-TEA-MATE BREAK at URANIA HALL** *in Château building and CIAS aside Urania Hall*

**11.30 - 12.30** **Hector J. DE VEGA** (CNRS LPTHE UPMC Paris, France)  
*Warm Dark Matter from theory and galaxy observations*

**12.30 – 14.00** **LUNCH** *at the Observatoire Restaurant (Meudon campus around the lac, near the Château building)*

## THURSDAY 9 JUNE AFTERNOON

### « SALLE DE CONFERENCES DU CHATEAU »

**14.00 - 15-00 Alexander MERLE** (Royal Institute of Technology KTH Stockholm, Sweden)  
*Neutrino model building and keV sterile neutrino Dark Matter*

**15.00 - 16-00 Angelo NUCCIOTTI** (INFN Milano Bicocca, Italy)  
*The MARE experiment in Milano Bicocca and its capabilities to measure the mass of light (active) and heavy (sterile) neutrinos*

**16.00 - 16.30 COFFEE-TEA-MATE BREAK at URANIA HALL** *in Château building and CIAS aside Urania Hall*

**16.30 - 17.30 Oleg RUCHAYSKIY** (CERN-Theory, Geneva, Switzerland) *Sterile neutrinos as dark matter candidates and the constraints on them from Lyman-alpha forest data*

**17.30 - 18.30 Katarina MARKOVIC** (Max-Planck Ludwigs-Maximilians Universität, Munich, Garching, Germany)  
*Constraining Warm Dark Matter with future cosmic shear data*

**18.30 - 19.00 Sinziana PADAROIU** (Observatoire de Genève, Switzerland)  
*The effect of free streaming on hot-warm dark matter haloes*

## FRIDAY 10 JUNE MORNING

### « SALLE DE CONFERENCES DU CHATEAU »

**10.00 – 11.00** Marco LOMBARDI (University of Milano, Italy)

*Larson' laws and the universality of molecular cloud structures*

**11.00 - 11.30** COFFEE-TEA-MATE BREAK at URANIA HALL *in Château building*

### PHOTO OF THE GROUP

**11.30 - 12.30** Frederic V.HESSMAN & Monika ZIEBART (Inst. F.Astrophysik, Georges-August-Univ.Göttingen Göttingen Germany) *The Bosma effect revisited - Correlations between the Interstellar Medium and Dark Matter in galaxies*

**12.30 - 14.00** LUNCH BREAK *at the Observatoire Restaurant (Meudon campus around the lac, near the Château building)*

## FRIDAY 10 JUNE AFTERNOON

### « SALLE DE CONFERENCES DU CHATEAU »

**14.00-15.00** **Patrick VALAGEAS** (Inst. de Physique Théorique, Orme de Merisiers, CEA-Saclay, Gif-sur-Yvette, France) *Perturbation theories for large-scale structures*

**15.00 - 16.00** **Pier Stefano CORASANITI** (CNRS LUTH Observatoire de Paris, Meudon, France)  
*Theoretical modeling of the halo mass function and halo bias: a path-integral approach to the Excursion Theory*

**16.00 -16.30** **COFFEE-TEA-MATE BREAK** at **URANIA HALL** *in Château building and CIAS aside Urania Hall*

**16.30 - 17.30** **Norma G. SANCHEZ** (CNRS LERMA Observatoire de Paris, Paris, France)  
*Warm Dark Matter and Galaxy properties from primordial fluctuations and observations.*

**17.30 - 19.30** **APERITIF/COCKTAIL** at **URANIA HALL** *in Château building for all participants and accompanying persons*

**END OF THE WORKSHOP**

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