

Laboratory astrophysics : tracking the evolution of cosmic matter towards molecular complexity

Subject

The workshop focuses on modern tools used to simulate and analyse, in the laboratory, the origin and evolution of complex matter observed in space, from dense molecular clouds up to the formation of new stars, planetary bodies and comets. The aim is to present complementary and most advanced methods and laboratory techniques developped in recent years to study, analyse, and simulate extraterrestrial matter in the laboratory. A close connection to the best astronomical observations and new perspectives with forthcoming space exploration will be made.

DETAILED PROGRAM

MONDAY	February	6th
--------	----------	-----

	Welcome	Jean-Hugues Fillion	
9h00-9h30			
OPENING TALK			
9h30-10h30	Observing the baryonic matter	Inga Kamp	
10h30-11H	Coffe Break		
11h00-12h30	Observing the baryonic matter (Part 2)	Inga Kamp	
12h30	Lunch		
GAS PHASE CHEMISTRY IN EXTREME CONDITIONS			
14h45-16h30	Neutral processes	Astrid Bergeat	
16h30-17h00	Coffe Break		
17H00-18h45	Ionic processes	Wolf Geppert	
19h30	Diner		
21h00-23h00	Poster Session 1		

07











TUESDAY February 7th

			
GAS PHASE CHEMISTRY IN EXTREME CONDITIONS			
8h30-10h15	Non reactive and reactive state-to- state collisions	Alexandre Faure	
10h15-10h45	Coffee Break		
GAS PHASE PHOTOPHYSICAL PROPERTIES OF SMALL ORGANICS?			
10h45-12h30	Advanced MW spectroscopic techniques for the detection of interstellar species	Laurent Margulès/ Roman Motiyenko	
12h30	Lunch		
14h45-16h30	New approaches for unveiling the fundamental properties of molecular excited states and ions.	Laurent Nahon	
16h30-17h00	Coffee Break		
NANOGRAINS, CLUSTERS, DUST PARTICLES			
17H00-18h45	Photophysics and spectroscopy of astroPAHs	Christine Joblin	
19h30	Diner	Diner	
20h30-0h00	Poster Session 2 & Sky Observation		

WEDNESDAY February 8th

NANOGRAINS, CLUSTERS, DUST PARTICLES			
8h30-10h15	Reactivity of carbon molecules and clusters : dissociation and growth	Alicja Domaracka	
10h15-10h45	Coffee Break		
10h45-12h30	Modeling : structures, thermodynamics, spectroscopy and dissociation	Cyril Falvo	
12h30	Lunch		
14h00-17h00	Free		
NANOGRAINS	6, CLUSTERS, DUST PARTICLES		
17H00-18h45	Generation and processing of solid carbonaceous and silicate macroscopic material	Emmanuel Dartois	
19h30	Diner		
21h00-22h30	Hands-on 2 (Rotational spectra) Analysis Hands-on 3 (Mass spectrometry)	Roman Motiyenko (and Laurent Margulès) Sandra Wiersma (and Alexandre Marciniak)	

Thursday February 9th

HETEROGENEOUS CHEMISTRY AND GAS GRAIN INTERACTION		
8h30-10h15	Physical and spectroscopic properties of molecular ices	Belén Maté
10h15-10h45	Coffee Break	
10h45-12h30	Grains-to-gas exchanges: experimental approach to thermal and non thermal desorption of ices	Mathieu Bertin
		1
12h30	Lunch	
14h15-16h30	Hands-on 1 (Radiative Transfer) Hands-on 4 (Astrochem. Model)	Alexandre Faure Astrid Bergeat
16h30-17h00	Coffee Break	
17H00-18h45	Modeling surface and bulk chemistry	Albert Rimola
19h30	Gala Diner	

Friday February 10th

FROM ASTROCHEMISTRY TO PREBIOTIC CHEMISTRY			
8h30-10h15	Analysing the content of meteorites and sample return	José C. Aponté	
10h15-10h45	Coffee Break		
10h45-12h30	From Astrochemistry to Planetary Chemistry - An Astrobiological Perspective	Louis le sergeant d'Hendecourt	
12h30-12h45	Closing comments	Jean-Hugues Fillion	
12h45	Lunch		
	Departures		