An extraordinary journey to the birthplace of stars... and beyond Un voyage aux confins de l'Univers, là où naissent les étoiles... et au-delà

HIDDEN UNIVERSE 3D

Narrated by Miranda Richardson



PRESS KIT 2014

ESP

# 2014: an array of new features designed to unveil the hidden secrets of the sky and share the space adventure of today

New: temporary exhibition, observatory, films, experiences and events

## In 2014, the Cité de l'espace is building on its astronomy theme, bringing the sky that little bit closer to our planet for the enjoyment of all, from our solar system to the depths of the Universe

#### New space features and facilities for dreamers, explorers, curious minds and enthusiasts of all ages

1. Explorations Extrêmes [Extreme Exploration]: a new temporary exhibition illustrating the challenges facing the current Rosetta and Curiosity space missions, their explorers and the distant, little-known spacescapes of Mars and a comet (from 26 April 2014)

2. The Astronomer's Dome: a new observatory that provides spectacular views of the sky via a real telescope, just like the ones used by astronomers (from 26 April 2014)

3. A line-up of space-themed films: the new IMAX 3D Hidden Universe film, the planetarium movie Collisions Cosmiques [Cosmic Collisions] and Terre, Lune, Soleil [Earth, Moon, Sun] (from 4 February 2014)

- 4. A line-up of events and discussions that are open to all: the Calendar of events (from 4 February 2014)
- 5. Space news live and round-the-clock at <u>www.enjoyspace.com</u>, a space information site brought to you by the Cité de l'espace

# II) <u>Updated permanent exhibitions</u>: explore space via a variety of brand-new experiences for the whole family

#### A gigantic journey from the surface of our Earth to the depths of the Universe

- 1. Launch centre: discover how men, rockets and satellites make their way into space.
- 2. The Earth Ship: investigate how space is used by fishermen, nurses, farmers, soldiers, rescue workers, biologists and many more.
- 3. The Weather Hub: get real-time weather updates from a Météo-France forecaster
- 4. The Solar System Quay: the solar system, planets, comets, asteroids, and beyond! Explore the ISS (International Space Station) and its life-sized Columbus lab
- 5. The Training Hall: a Moon Runner moonwalk simulator fitted with a rotating seat that allows visitors to feel the effects of space for themselves
- 6. The Observatory: see the Universe through the eyes of a modern-day astronomer from the observatory.
- 7. Real space rocks: a piece of the Moon brought back by the Apollo astronauts, a Martian meteorite
- 8. Astonishing experiences: space vacuum, weather forecasts, etc.

# III ) <u>The gardens</u>, where visitors can get up close and personal with real spacecraft, buckle up and find their place in the Universe

#### Discover all of the scales of space and the Universe

- 1. The Soyuz spacecraft: buckle up like a true cosmonaut in this legendary vehicle that is still in use today;
- 2. The Mir space station: wander around the famous Russian space station and discover the day-to-day lives of cosmonauts in space
- 3. The Ariane 5 rocket: get up-close and personal with the 53m-tall European launcher.
- 4. Life-sized satellites: discover the extraordinary objects that explore space and observe our Earth and the Universe
- 5. Infinity Alley: a simple yet striking experience to help build awareness of the scales of space and locate our position in the Universe
- 6. The Kids' Base, Mini Astronaut Square, water rocket launches: events, entertainment and locations specially designed for kids

# IV) <u>Audiovisual shows</u> to help you delve into the mysteries of the sky and experience the space adventure for yourself

An astronomical line-up and new IMAX 3D show

- 1. Planetarium: 'Collisions Cosmiques' [Cosmic Collisions]
- 2. IMAX 3D: 'Hidden Universe'
- 3. Stellarium: shows designed for kids and families: 'Astronaut', 'le Chasseur dans le Ciel' [the Hunter in the Sky], 'Terre, Lune, Soleil' [Earth, Moon, Sun]

# V) <u>Unprecedented discussions and a news site for the general public</u>, allowing visitors to see space differently

### via news, films, discussions and novel cultural events

Discover space and experience breaking news in the world of space via unprecedented discussions and experiences designed with the general public in mind

1. A diverse, varied line-up of discussions: covering topics to include space, astronomy, cultural subjects, suitable for the general public, often with free admission

2. Enjoyspace.com brings you daily real-time space news and events

## VI) Partners: a passionate crew on board from the very start

## Annexes

Calendar of events in 2014 Practical info The Cité de l'espace at a glance

### The Cité de l'espace is a unique place where the desire to share information on the space

#### adventure, in the world and in Europe, has become reality

The Cité de l'espace is located in the heart of Europe's space capital - Toulouse. With the Midi-Pyrénées region included, the area boasts 12,000 employees working in the field of space. Supported by one of the most significant space organisations, the Cité de l'espace occupies a prize position that allows it to share with the public this incredible human and scientific adventure and its daily developments.

The Cité de l'espace is unique in the world, fusing a variety of different professions and purposes. Its ambitions are multi-faceted, and include sharing developments in space and astronomy with the greatest number possible, inspiring a desire to learn more, stimulating interest in space careers, acting as a sounding board for the space industry, providing news and updates on space and astronomy, contributing to the tourist appeal of Toulouse and the region. In order to fulfil these many roles, it has built a rich, dense network of partners in all fields, from cultural and scientific to industrial, educational and tourism. (see partner page).



#### The Cité de l'espace was revamped in 2012, bringing it in line with developments in society and in space

Over a year ago now, the Cité de l'espace embarked on a long journey of metamorphosis, with a total overhaul of its permanent exhibitions and a new approach to its relationship with the public: a more human, sensory, modern, fun approach was needed, with an extremely concrete, tangible and fully-accessible base on which to rely, making it available to everyone and anchored in current development. The Cité de l'espace offers the public the opportunity to discover contemporary space and astronomy activities, meeting new expectations from both adult and child visitors.

## The Cité de l'espace is continuing its development with one goal in mind: to offer unprecedented, unique, accessible and authentic scientific experiences to all, from curious minds to dreamers and enthusiasts

The sky and space are of interest to a great many people for a variety of different reasons and the Cité de l'espace has always aimed to satisfy the greatest number possible. Whether by opening a dome up to better understand the sky, or simply appreciating the beauty of celestial bodies, the Cité de l'espace's new approach combines specialist knowledge, sensory experience, scientific culture, simplicity, contemplation, curiosity and authenticity. From 2014, observing the sky will play a larger role within the Cité de l'espace. From now on, the public will be granted a much closer, real-time view of the daytime sky via a telescope. This intense, moving and accessible experience will be open to visitors to the Cité de l'espace from 26 April.

A line-up of entertainment, shows, events and discussions will allow the public to gain a better grasp of the Universe that surrounds us.



#### Allowing everyone to get ever-closer to the reality of space



Naturally, the Cité de l'espace will retain all of the key elements that lie at the heart of its success, such as the 'scale 1' spacecraft that immerses visitors in space and lets them play at being astronauts, audiovisual shows that take audiences on a white-knuckle ride through the depths of the Universe and simulators that help young and old embark on a real space adventure. The Cité de l'espace organises discussions and events to help the public enjoy astronomy, space and cultural news in real-time.

Curiosity, accessible learning, sensory experience and space news are its key words.

I) In 2014, the Cité de l'espace will be building on its space theme, bringing visitors ever-closer to the sky and helping them explore its mysteries, from the solar system to the depths of the Universe.

New space features and facilities for dreamers, explorers, curious minds and enthusiasts of all ages

1-Extreme Exploration: a new temporary exhibition. Set off on a discovery of a comet and the planet Mars, experience the challenges faced along the way and the two main space missions currently taking place. Rosetta and Curiosity and their 'explorers', sent into the solar system to find out more about our origins.

#### Exhibition theme: discover a comet and Mars.

The exhibition centres around 2 current space missions:

- Rosetta, headed for a comet
- Curiosity, a rover currently exploring Mars

Opening date: 26 April 2014

The public will be granted access to a comet as well as a life-sized, activated Philae lander

Highlights: reconstruction of the surface of a comet and of the Martian surface, life-sized, activated model of Philae (lander carried by

exhibitions illustrating the importance of studies of comets and Mars. The Rosetta and Curiosity missions share many of the same traits, both taking place in our solar system, both risky endeavours that are occurring for the very first time which aim to research further into where we come from and the history of the beginning of life on Earth. This new temporary exhibition brought to you by the Cité de l'espace will showcase two great space missions side-by-side as they both currently take place in space.

the Rosetta probe which is due to land on a comet on 11 November 2014, see illustration below), life-sized functional model of the Curiosity rover, interactive experiences such as one that allows visitors to make their very own comet,

#### An exhibition that allows visitors to immerse themselves in spacescapes that are currently inaccessible to Man: a comet and the planet Mars. A new space in which to discover the challenges facing the 2 exceptional missions that are Rosetta and Curiosity.

After a decade spent travelling through our solar system, the European Rosetta probe will be drawing closer to 'its' comet in order to study it further. NASA's Curiosity rover landed on Mars in August 2012 and in 2014 it continues to weave its way across the surface of the red planet. With this new temporary exhibition, the Cité de l'espace will be bringing young and old the latest news on these two endeavours starting in next April, plunging visitors into the very heart of the solar system in all of its diverse glory.

The Curiosity robot will be showcased as a life-sized model that visitors will be able to drive to help the public better understand its missions





## In 'Extreme Exploration', the public will carry out numerous experiments and be granted an introduction to astronomy and the diversity of our solar system

In a highly-realistic celestial environment, a variety of events and interactive features will allow the public to become familiar with comets and the Rosetta probe's mission. The latter is transporting the Philae lander which is due to land on the Churyumov-Gerasimenko comet in November 2014. Philae will be showcased as a life-sized, activated model.

Alongside this, the public will be able to get closer to the 'scale 1' Curiosity rover and will watch as it moves across the Martian landscape. The Curiosity rover and mission will thus be explained to the public.

Against these 2 comet and Martian backdrops, guides will offer children and adults alike **concrete experiences** to help them better understand these 2 very different celestial bodies, which nevertheless share similar origins to those of our planet Earth.

#### Events will also be held to track the advances of the Rosetta probe and Curiosity rover in real-time

These 2 space missions will both be tackling huge, unprecedented challenges in 2014. The Cité de l'espace and its space news site <u>www.enjoyspace.com</u> will regularly keep the public updated. As well as the very latest breaking news, the public will also be able to follow the Rosetta probe's meeting with a comet in real-time, discover the latest pictures taken of this alien landscape, see the Philae lander touch down and observe how the comet changes as it comes closer to the Sun over the months. Find out more about the Rosetta mission at <u>http://www.enjoyspace.com/fr/news/les-etapes-de-rosetta</u>

#### 2014: the different stages of the Rosetta mission

the Rosetta space probe awakens
the Philae lander is activated
first operations for the meeting with the comet are implemented
a series of breaking manoeuvres in preparation for this meeting
first definitive images of the comet
the landing site is selected
Rosetta is put into orbit around the comet's nucleus
the Philae lander touches down on the comet
beginning of Rosetta's 'escorting' of the comet

The Rosetta Probe finally meets its comet

In 2014: the Curiosity rover's climb up Mount Sharp will be one of the huge challenges worth watching.

Make your own comet

## Discussions will be held throughout 2014 to better understand and share developments and challenges for both of these missions

Throughout 2014, the Cité de l'espace will be holding a line-up of public discussions, conferences and debates with French players involved in the Rosetta and Curiosity missions. (see programme attached to this press kit)

## 2- The Astronomer's Dome: aa new observatory that provides spectacular views of the sky via a real telescope, just like the ones used by astronomers (from 26 April 2014)



The 'Astronomer's Dome' opens at the Cité de l'espace on 26 April 2014. New equipment will allow all visitors to discover the sky and its mysteries 'just like an astronaut' using a telescope. In the daytime, the public can enjoy an introduction to astronomy with the help of a guide, and will explore the sizzling activities of the Sun, the Moon and its craters and, depending on timing, sometimes even planets.

The 'Astronomer's Dome' may also be open in the evening and at night for observation sessions and for watching remarkable astronomical phenomena.

**Practical info**: the dome measures 7.50m across and is home to an array of instruments including a 40cm diameter telescope and a telescope specially-designed for viewing the Sun. Capacity: 30 people per session

#### 3- A line-up of space-themed films, including the new IMAX 3D 'Hidden Universe', the planetarium movie 'Collisions Cosmiques' and 'Terre, Lune, Soleil' (from 4 February 2014)

#### Imax® 'Hidden Universe'

Hidden Universe takes viewers on an extraordinary journey though the depths of space into a completely alien environment. The depths of our universe are shown for the first time on a giant screen and in 3D, with unprecedented clarity and high definition thanks to real images taken by the most powerful telescopes available. These breathtaking HD images allow you to explore some of the oldest galaxies and watch stars being born amidst clouds of gas and dust, fly over Mars and enjoy stunning views of the sun. These latest images offer a new look at how the universe was born and how it evolved. Shown daily and at every IMAX® session





#### The planetarium 'Collisions Cosmiques' [Cosmic Collisions] film

Collisions are a frequent occurrence in our universe. They both destroy and create. The Moon is the result of a collision, and it was thanks to yet another cosmic shock that the Earth became populated with mammals to replace the dinosaurs. Our galaxy, too, is the result of multiple collisions of little galaxies, and in the future, other collisions will also take place. This spectacular show illustrates the impact of these events that are both catastrophic and fertile - the phenomena that gave birth to our world and Universe.

#### The stellarium 'Terre, Lune, Soleil' [Earth, Moon, Sun] film

Coyotes may be smart, but they have very strange ideas on what they see above them. This is the basic premise of this planetarium film that focuses on lunar phases, eclipses and other enigmas of astronomy. The captivating 'Terre, Lune, Soleil' also investigates what humans can learn from space exploration. From 8 years old. Runs for 26 minutes. (Produced by UNC Morehead Planetarium and Science Center)

4- A line-up of events and discussions that are open to all: the Calendar of Events (from 4 February 2014) (see annexes )

5- Space news live and round-the-clock at <u>www.enjoyspace.com</u>, a space news site brought to you by the Cité de l'espace

#### II) Updated permanent exhibitions: an interactive and original way of discovering space



The Cité de l'espace aims to showcase the latest big developments in space and to meet the needs of the widest, most diverse audience possible: regional visitors and tourists from abroad, family trips and solo visits to school trips and guided tours. At the Cité de l'espace, the visitor becomes an active component of the discovery process and will be embarking on a variety of fun experiences to help find out more about space and current developments. The visitor's trail has been designed to plunge visitors into a real experience and is structured around 6 big themes or 6 stories, with reconstructed elements and décor to match.

After 15 years of existence, the Cité de l'espace entirely revamped and rethought its permanent exhibition collection in 2012, both in terms of content and form, resulting in 2000m<sup>2</sup> dedicated to the human adventure among the stars. This ambitious project was made possible thanks to support from the Ville de Toulouse, Toulouse Métropole, the Région Midi-Pyrénées, and the European Union in the context of its POCTEFA and FEDER programmes. <u>http://www.enjoyspace.com/fr/dossiers/une-nouvelle-cite-de-l-espace</u>



#### Explore space via a variety of original, realistic experiences for the whole family to enjoy

## 1 The Launch Centre

#### **Discover how astronauts, rockets and satellites make their way into space.** 5, 4, 3, 2,1 - take off!

The journey begins backstage, as if the visitor were entering a rocket **launch centre.** In this fun and highlyrealistic setting, curiosity is piqued by the sheer number and variety of different interactive features that help the public become fully-immersed in the game of discovery. How rockets work, how they are built and how the Ariane 5 was put together across Europe - these themes are approached in a simple, easy to understand way using multiple different experiences. The visitor takes part in rocket launches across the world and plays at being an aerospace engineer by completing different tasks. The trail can be followed at the visitor's own pace, playing the game alone, as a family or with friends.







#### 2. The Earth Ship

## Discover the Earth from space and try your hand at using satellites in a variety of different roles

The second stage of the trail showcases Earth as seen from space. The public will become aware that us earthlings are all astronauts - and the Earth is our spaceship! We finally come to understand that the atmosphere is our very own spacewalk and that we are currently being transported aboard a beautiful yet fragile spacecraft. This awareness is stimulated by **observing our planet from space**: satellites offer us a view of the Earth that enables us to better understand and explore our own planet.





In addition, space activity brings us new services every single day: **satellite applications**. Fishermen, farmers, rescue workers, nurses and many others all use satellites on a daily basis as part of their jobs. Here, visitors will be able to test these services against striking backdrops. Using the data they gather or broadcasts they transmit, satellites allow responsible management of our resources and carry learning and expertise from specialists to isolated regions of the planet. Some examples are illustrated for the public via simulations and interactive features: **steer a fishing boat**, stay on course and **safeguard fish stocks** using satellites. **Track animals** across the planet and **experience how some farmers use space** today in order to achieve sustainable agriculture.

#### **3- The Weather Hub** Discover current meteorology and meet a weather forecaster

A change of scene as visitors arrive in the **forecaster's area**. Among the many services provided by satellites, there is of course weather forecasting. A **weather forecaster from Météo-France** is continuously present in this exhibition space, and supported by real-time satellite images, helps the public understand how today's weather forecasting is done. Visitors can try their hand at becoming **weather forecasters** with **Studio TV**, filming and saving their own weather forecasts and watching it

back as it would appear on television! All aboard the **atmospheric elevator!** Destination: space, to discover the different layers of our atmosphere. Meteorological phenomena can also be recreated here with images: cyclones, hurricanes and many more, with the opportunity to learn how they are formed.

## 4- The Solar System Quay



Set off an unprecedented exploratory mission of the solar system and beyond



Embark on an inspiring, fascinating journey and learn about recent discoveries that have revolutionised the way we see our solar system. Astronomy is constantly evolving.

In this exhibition space, the public can journey 400km up in space with the International Space Station (ISS). Visitors can enter a life-sized reconstruction of the **ISS's European Columbus unit**, a real laboratory and space hub that is currently orbiting the Earth. Visitors can enjoy a glimpse of day-to-day life as an astronaut, and even attempt to **put together a balanced menu** using the weird and wonderful meals eaten in space. The journey continues towards our natural satellite (the moon), where visitors can discover **an authentic piece of Moon rock** brought back by astronauts from the Apollo 15 mission and entrusted by NASA to the Cité de l'espace.

Visitors can explore the rest of the solar system, rocky planets such as Mars, asteroids and astonishing objects such as a model of the **Rosetta probe** currently on a 10-year journey to a comet. Another surprising discovery: the huge **Gibeon meteorite**.

Could there be life on gas giant planets' moons? Visitors are invited to make their own investigations, breaking through the ice crust around Europa, one of Jupiter's moons, or by flying over Titan, Saturn's moon. Delve even deeper into space and dust off exoplanets, whole worlds that orbit suns other than our own. Discover new solar systems and over **900 new planets**.

### 5- The Universe Observatory

#### Go even further and reach for the depths of the Universe!



Distant nebulas, the cradle of stars and galaxies that are home to hundreds of billions of suns -

the Universe reveals its beauty in a setting that aims to recreate an observatory under the canopy of the stars. Interactive features such as oversized touch-screen tables help visitors discover outer space in a fun, original way. Terrestrial observatories or telescopes launched into space reveal the Universe on wavelengths that the human eye cannot detect: X-rays, ultraviolet, infra-red, etc. Each of these windows onto a different perspective teach us a little more about what surrounds us, from our closest stars to the Big Bang.



Are you sitting comfortably? Then we shall begin with the **tales and legends of the stars**. Man has always looked up at the sky and dreamt, and with imagination came curiosity, and the ability to

travel to new worlds. The Cité de l'espace has selected a handful of tales and legends of our skies that have inspired whole peoples around the world.



## 6- The Training Hall: simulators to enjoy real space sensations

#### A moonwalk simulator to experience space sensations: Moon Runner

Feel like you've never felt before. Guides invite members of the public (between 15 and 110kg) to try out simulators that allow visitors to experience the sensations felt by space professionals. Thanks to the **Moon Runner** simulator, both adults and children can feel the lightness of moonwalking for themselves, moving around just like astronauts on the Moon, becoming real Moonwalkers. Visitors weigh 6 times less and walk in a completely different way. (session varies according to the day's events)

## Unleash your sixth sense thanks to the Cité de l'espace's Rotating Seat: test your motion sensors just like astronauts in training do

This new rotating seat allows visitors to the Cité de l'espace to discover a sixth sense that is mostly ignored by people on Earth: the 'inner ear'. This physical ability is extremely important as it contributes to our body's balance. This rotating seat is normally used to test astronauts' levels of resistance to disruption caused by this sense when it comes into contradiction with their sense of sight. These contradictory sensations of our balancing system provoke what is known as 'space sickness' (nausea or car sickness). This seat helps future astronauts get used to this issue, which can be more or less of a problem depending on the individual, and which will become a daily fact of life in space. At the Cité de l'espace, visitors are given the opportunity to discover this sixth sense in order to fully understand what goes into an astronaut's training, with the limits of each individual carefully monitored. *Included in the entry ticket. (session varies according to the day's events). This seat was designed by Sogeclair Aerospace and was given to the Cité de l'espace by the Ville de Toulouse.* 





## 7- Get closer to some real space rocks:

A piece of the Moon brought back by the Apollo astronauts, a Martian meteorite...

Discover the inaccessible, explore the journey undertaken by these rocks and uncover their history. For example, the Moon rock exhibited in the Solar System Quay is a 163g basalt fragment that was brought back from the Moon by astronauts from the Apollo 15 mission, and is invaluable due to its rarity. The chance to get this close is an opportunity to enter something of a parallel universe. By walking around the exhibitions, discover meteorites of various origins, including a Martian meteorite - another way of accessing the realities of space.



## 8- Astonishing experiences!

#### The 'space vacuum' feature

In space, there is no air. It is essentially a vacuum. This feature gives you the opportunity to discover some of the effects that this vacuum has on specific physical phenomena. A ball, water, and even a mobile phone are all guinea pigs in these astonishing experiments carried out by a scientific guide, with help from the public. References and anecdotes relating to the conquest of space serve to illustrate these different experiments. The event lasts 30 minutes. Open weekends, bank holidays and school holidays



#### Weather forecasts

A weather forecaster from Météo-France will be on hand to answer all questions on weather forecasts, climate and the weather throughout the world.

# III ) <u>The gardens</u>, where visitors can get up close and personal with real spacecraft, buckle up and find their place in the Universe

#### Discover all of the dimensions of space and the Universe

Amidst these 2-hectare gardens, visitors will explore 'Infinity Alley', the 'Galaxy Maze', sun dials and real spacecraft. They can even hop aboard a few of them!

1 - The Soyuz craft: buckle up like a real cosmonaut in this legendary vehicle that is still in use today. Along with Moscow's astronaut-training Star City, the Cité de l'espace is the only site in the world in which visitors can take a seat aboard a Soyuz spacecraft. A moving, striking experience and illustration of the confinement and cramped conditions of spacecraft.



2- The Mir space station: wander around the famous Russian space station and discover the day-to-day lives of cosmonauts in space. By entering this real test model, visitors can familiarise themselves with living and working conditions experienced by cosmonauts. A unique experience!



- 3- The Ariane 5 Rocket: like Kourou in Guiana, installed on its launch pad, the Ariane 5 rocket rises up to 53mhigh.
- 4- Life-sized satellites: get a closer look at these extraordinary items and discover space objects in all their diversity and uniqueness.
- 5- Infinity Alley: an ultra simple experiment to be carried out by walking down the alley. The objective? To discover the Universe around us and increase our awareness via images and 26 stages with which to explore the scales of space and our place in the Universe.
- 6- The Kids' Base, Mini Astronaut Square, water rocket launches

Events, entertainment and locations specially designed for kids

The Kids' Base: a learning area for children aged between 6 and 12 years

"Space seen through the eyes of a child" The Kids' Base is tucked away in the Ariane 5 Rocket building. The trail

installed in the Kids' Base is an imaginary journey comprised of three exhibition zones with extremely different settings and atmospheres. Over the course of this imaginary journey, children are invited to become mini astronauts, engineers or astronomers.

#### The Kids' Base offers three little sections for three different experiences

- The 'Little Astronomer' section is a 'mysterious library' in which children can take part in numerous experiments designed as games to learn about the different celestial bodies that inhabit our skies, and their impact on our life on Earth. Come and play with the planets!
- The 'Little Engineer' section throws visitors into a 'secret laboratory'. Children will be tasked with organising the different stages of launching a rocket. They will learn about the main construction and propulsion mechanisms. Time to launch the rocket. 3, 2, 1, lift off!
- The 'Little Astronaut' section is the ultimate explorer's area. A cosmic atmosphere reigns in this spacecraft where children will carry out research and exploration operations. Taking over the controls to choose their destination, embarking on a moonwalk, sleeping standing up, riding a bike 'upside down', and much more!







#### The Mini Astronaut Square: a play area for little adventurers aged between 3 and 6 years

This play area lets little adventurers slip down a rocket slide and take over the controls, climb into a space station and play at being a cosmonaut in space or even ride a Jeep across the Moon and crawl through a galaxy!

#### Water rocket launches With the help of a kids' guide, children will launch a mini Ariane 5-style rocket at the foot of the life-sized rocket!



# <u>Audiovisual shows</u> to help you delve into the mysteries of the sky and experience the space adventure for yourself

#### 1- The Planetarium: 3 shows to discover the sky and space news while journeying into the depths of space.



The Cité de l'espace's Planetarium is equipped with a dome-shaped screen measuring 600m<sup>2</sup> that uses cutting-edge 3D simulation technology (DIGISTAR 3). A variety of different programmes are on offer at the Planetarium:

- 'Collisions Cosmiques' [Cosmic Collisions]
- 'Destination planètes' [Towards the Planets]
- 'Des planètes aux galaxies' [From Planets to Galaxies]

Planetarium sessions last 40 minutes including screening of the film and a real-time presentation and images of space, as well as information on observing the night sky with the naked eye.



#### 'Collisions Cosmiques' [Cosmic Collisions]

Collisions are a frequent occurrence in our universe. They both destroy and create. The Moon is the result of a collision, and it was thanks to yet another cosmic shock that the Earth became populated with mammals to replace the dinosaurs. Our galaxy, too, is the result of multiple collisions of little galaxies, and in the future, other collisions will also take place. This spectacular show illustrates the impact of these events that are both catastrophic and fertile - the phenomena that gave birth to our world and Universe.

#### 'Destination planètes' [Towards the Planets]

A show hosted at the planetarium to set off on a discovery of the Solar system's planets using astronomical telescopes and NASA's Hubble telescope, as well as space probes that visit the planets 'in situ'. Journey to Mars, delve into Saturn's rings, explore lo's volcanoes and one of Jupiter's satellites... The inter-planetary journey ends among the stars. This show is brought to you by the Cité de l'espace and offers a thorough investigation of our solar system.

#### Des Planètes aux galaxies [From Planets to Galaxies] from 14 years

Discover the planets of our solar system, comets and their potential effects on our planet (such as shooting stars). ... Experience the birth and death of stars, uncover the future of



our solar system and of Earth... This journey through space and time whisks visitors away into a completely different solar system, continuing on outside of our galaxy, eventually ending amidst the deepest depths of our known Universe. (Only available during term-time, twice a day). This show is available to visitors over the age of 14.

#### 2- Imax® 'Hidden Universe'



Hidden Universe takes viewers on an extraordinary journey though the depths of space into a completely alien environment. The depths of our universe are shown for the first time on a giant screen and in 3D, with unprecedented clarity and high definition thanks to real images taken by the most powerful telescopes available.

These breathtaking HD images allow you to explore some of the oldest galaxies and watch stars being born amidst clouds of gas and dust, fly over Mars and enjoy stunning views of the sun.

These latest images offer a new look at how the universe was born and how it evolved. Screened daily and at every IMAX® session.

A giant screen that measures the same as a 6-floor building, as well as a 'large 3D format' projection system ensure that visitors are immersed in images of space that leave them feeling as if they were truly there. A spectacular life-sized immersion experience. The IMAX® cinema at the Cité de l'espace offers unrivalled quality and exceptional image stability (3D images across the entire screen), projected onto a 400m<sup>2</sup> screen that offers maximum colour and 12,000 watt surround sound. The public experiences the realities of a dangerous space mission.

## 3- The Stellarium: a planetarium for young children (over 4 years) and families

The **Stellarium** features a room equipped with a dome-shaped screen and space simulator for the enjoyment of children and families, allowing them to learn while having fun and find their way using the stars as a map.

#### 3 shows:

For the very young (4 years and above), 'Le Chasseur dans le ciel' [the Hunter in the Sky] is the story of the tale told by Papounet to this granddaughter Léa. Orion the hunter and his loyal hound Sirius got lost in the vast, star-filled forest....

#### 'Astronaut'

For older children (7 years and above) and for adults alike, the '**Astronaut**' show is a daily event: What difficulties do astronauts face during their space missions? Featuring an original, humorous animated film projected on the dome at the **Stellarium**, the public is given the opportunity to experience the numerous challenges that must be faced, as well as the training followed by space explorers.

#### 'Terre, Lune, soleil' [Earth, Moon, Sun]

Coyotes may be smart, but they have very strange ideas on what they see above them. This is the basic premise of this planetarium film that focuses on lunar phases, eclipses and other enigmas of astronomy. The captivating 'Terre, Lune, Soleil' also investigates what humans can learn from space exploration. 8 years and above. Runs for 26 minutes. (Produced by UNC Morehead Planetarium and Science Center)

## V) Unprecedented discussions and a general public news website

Discover space and experience breaking news in the field of space via unprecedented talks

# 6. covering topics such as space, astronomy and cultural issues, designed for the general public, often with free admission



Every year, the Cité de l'espace draws up a programme of cultural happenings and events in partnership with numerous players in the scientific community and cultural institutions. These events are aimed at a very diverse audience. The line-up features:

- events held annually or occasionally (the Trophées de la Robotique in March 2013, the Nuit des Etoiles, the Novela, Ciel en fête, the Festival des Etoiles et des Ailes, etc.)
- **space news**: launches of rockets, probes and spacecraft. For example on 6 August 2012 at 7:31 am, tracking and live commentary was provided for the Mars landing of the Curiosity rover
- **regular talks** with scientists and astronauts (conferences, debates, etc.)



<u>Get our latest news on</u> our website (press calendar) <u>www.cite-espace.com/#presse</u> ou <u>www.cite-espace.com</u> 'discussions' section or the website at<u>www.enjoyspace.com</u> as well as our Twitter (twitter.com/@CiteEspace) and Facebook page (www.facebook.com/cite.espace.toulouse)

#### 7. Enjoyspace.com brings you daily real-time space news and events



Enjoyspace.com aims to share space news with as many people around the world as possible, day after day. Created and introduced by the Cité de l'espace <u>www.enjoyspace.com</u> is the space news website for everyone. Enjoyspace keeps the Cité de l'espace's passion alive online: giving visitors the keys to unlocking the secrets of space and its news. As a true web portal,

Enjoyspace offers brand-new and original articles, videos, special reports, a blog, and the opportunity to find out which astronauts are currently in space, current exploration missions, dates of upcoming launches, etc. Enjoyspace also goes behind the scenes, unearths anecdotes and personal accounts of this human adventure in the Universe. Enjoyspace is for the enjoyment of all - members of the public, newcomers, amateurs and specialists alike. Enjoyspace is available in French and English. Take part in regular broadcasts of space events, live and with French commentary at <u>www.enjoyspace.com</u> and at the Cité de l'espace



### V) Partners: a passionate crew on board from the very start

The Cité de l'espace was the result of an initiative started by the Toulouse town council.

Local authorities, ministries, and companies in the space sector all joined forces to create the European park of space adventure. Our partners are the founding elements of the Cité de l'espace. Their support lies at the heart of the Cité de l'espace's success and singular nature.

#### **Founding members**

Toulouse town council Conseil Régional de Midi-Pyrénées, Centre National d'Études Spatiales (CNES), Météo-France, EADS -Astrium, European Space Agency (ESA) Observatoire Midi-Pyrénées (OMP), CLS (Collecte Localisation Satellites), Spot Image, Snecma, Thales Alenia Space, French Ministry for National Education, Research and Technology,

Ministry for Equipment and Transport. Ministry of Defence, Centre Régional de Documentation Pédagogique (CRDP), Institut Géographique National (IGN), Sagem SA, CESBIO (Centre d'Études Spatiales de la BIOsphère), Caisse des Dépôts et Consignations (CDC), Dexia-Crédit Local de France. CNRS [National Centre for Scientific Research], UPS [Paul Sabatier University]. EDF-GDF. Services Grand Toulouse. Cité des Sciences et de l'Industrie, SNPE. Centre d'Études Spatiale des Rayonnements (CESR), Lycée Saint-Exupéry, Science Animation. Marsh SA, France Telecom ONERA Caisse d'Epargne de Midi-Pyrénées

#### **Official partners**

The Cité de l'espace's official partners contribute to the site's temporary exhibitions and occasionally to events and take part in its cultural and tourism development. Their support in terms of funding, human resources, technology and logistics allows the Cité de l'espace to carry out its numerous projects.

Toulouse Tourism Office So Toulouse Comité Régional du Tourisme de Midi-Pyrénées Comité Départemental du Tourisme de Haute-Garonne Atout France Lycée de l'espace Sciences Animation Planète Sciences Midi-Pyrénées Société d'Astronomie Populaire (Observatoire de Jolimont) Domaine d'Ariane Observatoire Les Pléiades Amis de la Cité de l'espace Club Galaxie

#### Midi-Pyrénées Pays des Etoiles

Pic du Midi -OMP A Ciel Ouvert – La Ferme des Etoiles

#### The Trail of Origins: unearthing the origins of life and the Universe from Catalonia to the Midi-Pyrénées region

Toulouse Natural History Museum À Ciel Ouvert in Fleurance (Gers) The Centre for the Study of Prehistoric Archaeological Heritage at the University of Barcelona(CEPAP-UAB) The Montsec Centre for Observation of the Universe, Montsec consortium (Ager) The Association for the Research and Popularisation of Historical Heritage in Llorenç (ARDPH).

#### ➡ The Trail of Origins: an example of cross-border partnership

#### Exhibitions and creations on the theme of the origins of Man and the Universe:

When archaeology meets astronomy - the 'Trail of Origins' scientific knowledge-sharing project brings together six French and Spanish institutions around a single shared goal: to spread scientific knowledge of the heritage of the Pyrenees region around the theme of the origins of the Universe and Mankind. French involvement is comprised of the Cité de l'espace, the Toulouse Natural History Museum and À Ciel Ouvert in Fleurance (Gers), while on the Spanish side the list of participants is made up of the University of Barcelona's archaeology department (CEPAP-UAB), the Montsec Centre for Observation of the Universe (Ager) and the Noguera Archaeology Association (ARDPHN). This cross-border, multi-disciplinary initiative is part of the territorial cooperation operations project that exists between Spain, France and Andorra (2007-2013). This project includes the installation of a touring exhibition on the theme of Origins that travels around the Pyrenees region, and the development of individual initiatives led by each partner: exploring archaeological sites, preparing excavation sites, kids' camps that combine archaeology and astronomy, all to take place on both sides of the border. This project is funded by the European community.

At the Cité de l'espace, the 'Observatory' and the temporary Origins exhibition were both co-funded by the European Union and the European Regional Development Fund.







Fonds européen de développement régional

## CALENDAR OF EVENTS AT THE CITE DE L'ESPACE

These events are free unless otherwise stated

## **APRIL 2014**

#### Astronautical conferences Wednesday 23 April at 6:30pm AT THE CITE DE L'ESPACE

#### Asteroids: what they tell us and how to protect ourselves from risks of collision

By Mike Toplis, head of research at the CNRS and Jean-Yves Prado, CNES engineer.

Astronomers ignored the study of asteroids for a long time, but we now know that they represent an essential key to understanding how our solar system was created. Some of them may be entering the Earth's orbit in the not-too-distant future. Why is the study of these objects so important? What threat do they pose, and how can we prepare for them? Cinémathèque prices: €6.50/Discount ticket: €5.50/Under 18s: €3 - Tickets available from the Toulouse Cinémathèque

#### 26 April 2014: a new temporary exhibition, 'Extreme Exploration', and a new piece of equipment: the Astronomer's Dome

## 1- Opening of the 'Extreme Exploration' temporary exhibition

Opening of a temporary exhibition that showcases 2 current space mission side-by-side: the Curiosity mission (NASA) to explore the planet Mars and the Rosetta mission (ESA) to research a comet and our origins. This sensory, unprecedented exhibition will be supplemented with a line-up of conferences and real-time tracking of progress made by the Rosetta probe and the Philae and Curiosity robots.

## 2- Opening of the Astronomer's Dome

New equipment will allow all visitors to discover the sky and its mysteries 'just like an astronaut' using a telescope. In the daytime, the public can enjoy an introduction to astronomy with the help of a guide, and will explore the sizzling activities of the Sun, the Moon and its craters and, depending on timing, sometimes even planets. The 'Astronomer's Dome' may also be open in the evening and at night for observation sessions and for watching remarkable astronomical phenomena.

## **Astronautical Conference**

#### Wednesday 21 May at 6:30pm AT THE CITE DE L'ESPACE Ariane 6 - the importance of a new launcher

#### By Marie-Anne Clair, Deputy Head of the CNES Launch Vehicles Directorate.

Designing and developing a launcher that meets the needs of future markets while gaining in flexibility, responsiveness and all at a more competitive price - this is the challenge faced by promoters of the new European launcher. Are these objectives realistic?

## Scientific and technical events

#### Friday 23, Saturday 24 and Sunday 25 May AT THE CITE DE L'ESPACE

#### Solar challenges

Solar vehicle racing. Mini solar vehicles will clash in a track race to be held throughout the day. Event organised by Planète Sciences Midi-Pyrénées in partnership with the Cité de l'espace.

## **JUNE 2014**

## **Day of Scientific Fun**

Wednesday 4 June from 10am to 4pm AT THE CITE DE L'ESPACE

## **Rio Loco Festival – Terre Caraïbes**

Tuesday 11 to Sunday 15 June from 4.30pm to 10pm (from 5pm on Tuesday) PRAIRIE DES FILTRES TOULOUSE

The Cité de l'espace and the Rio Loco Festival join forces to take you on a journey to fertile space launching territory: Kourou and Cape Canaveral!

## Meteorology and Climate Night

#### Organised in partnership with Météo-France and the Cité de l'espace. Thursday 19 June

Big round table discussion in the IMAX room focusing on the subject of meteorology and climate, to be developed over the course of the La Novela Festival held in October at the Cité de l'espace.

## JULY 2014

## Cité de l'espace's Big Nights Out

Thursday 17, 24 and 31 July

The Cité de l'espace is extending its opening hours until 11pm every Thursday of the summer period, from 17 July to 28 August

**AUGUST 2014** 

## **Starry Night**

#### Friday 1 August from 7pm to midnight

Big observation event with sessions in the Planetarium and a wide variety of events for the whole family to enjoy.

## Cité de l'espace's Big Nights Out

Thursday 7, 14, 21 and 28 August 2014

The Cité de l'espace is extending its opening hours until 11pm every Thursday of the summer period, from 17 July to 28 August

## SEPTEMBER 2014

## Scientific and technical events

#### Wednesday 17 September at 6:30pm AT THE CITE DE L'ESPACE

#### Rosetta: introduction to the origins of the Solar system

By Jean-Pierre Bibring, Astrophysicist at the IAS (Institute of Space Astrophysics) and CNES head of the Rosetta project, Philippe Gaudon. On 2 March 2004, the Rosetta European space probe took off aboard the Ariane 5. Its mission? To gather data on the composition of the Churyumov-Gerasimenko's nucleus, a comet on which the small 100kg Philae lander was to touch down in order to carry out soil composition analysis. 10 years on, can Rosetta keep its promise?

## **Researchers Night**

Friday 26 September

Led by the University of Toulouse in 2014 in partnership with universities, associations of scientific culture, research laboratories, and engineering schools with a view to getting students involved in both the evening itself and its preparations.

## The Festival Des Etoiles et des Ailes

21 and 22 September

1st edition of the festival's airshow

## **OCTOBER 2014**

## La Novela Festival - Meteorology and Climate

Friday 3 to Friday 17 October

The theme for 2014 is: Meteorology and Climate. In partnership with Météo-France, including a special week to focus on a Space theme at the Cité de l'espace.

## **NOVEMBER 2014**

## The Festival Des Etoiles et des Ailes

Thursday 13 November to Sunday 16 November

Book fair, film festival, conferences, events and talks on the subject of aeronautics and space.

## The Rockin Robot Challenge

#### Monday 25 to Sunday 30 November

Day of challenges in the context of the 2014 European week of robotics Robotics doctoral students of the highest level design robots that battle it out in two different types of challenge: Work robots (assist in workshop tasks) and home robots (assist with housework).

## Learning events (for visitors in education and the media only)

#### Wednesday 23 April

#### Engineering Sciences Olympiad/Regional finals

50 high school students in the Engineering Sciences and Technology stream will give presentations of their experiences before a jury of professors, in a bid to win the regional final and thus attend the national final held in Paris.

#### Wednesday 14 May

#### Teaching open day: astronomy at the Cité de l'espace

Tour of the labo3, temporary exhibition and Dome. Conference on the topic of comets and asteroids at 6pm: Ghyslaine Quitté (IRAP/OMP). In partnership with the OMP.

#### Friday 23 May

#### 5th Kids Science Congress

'Living in Space': 140 children from 6 schools in the Toulouse Métropole area will give 24 oral presentations and showcase posters they've made over the course of a congress designed for budding researchers.

### Practical info Food and drink

**Restaurant** Astronaute Café for both groups and individuals, offering a large choice of meal deals (panoramic view over the Park). Free admission, no entry ticket required.

Snacks in the Park, la case Guyanaise, open during school holidays (Zone A).

**Restaurant**, *Espace 149*, a variety of different menus and meal deals: traditional meals provided for groups and fast food options for the general public during school holidays (Zone A).

3 picnic rooms, free to use for school groups upon booking and for the general public depending on availability.

#### <u>Services</u>

**Shops and bookshops:** discover an original selection of gifts and souvenirs, including books, CDs, models, and much more. Free access with no entry ticket required.

Access: free parking. Disability access. Information displayed in Braille, wheelchairs available to borrow, audio loop system fitted in the conference rooms. Planetarium sessions are available in Sign Language upon request made by email to standard@cite-espace.com. The Cité de l'espace is certified as a 'Disability-friendly Tourism Site' (intellectual, hearing, mobility and visual).

**New:** Events programme designed for deaf and hearing-impaired visitors. For personalised guidance on your visit, register at <u>c.leloup@cite-espace.com</u>. Day trips for deaf and hearing-impaired visitors take place on the last Saturday of every month.

**Groups** (+ 20 people): for help planning school trips and tour groups, contact our bookings service at 05 62 71 56 00 For our business tourism reception desk, please contact the business department at 05 62 71 61 99 Get all the latest information on our offers on the next page or at <u>www.cite-espace.com</u>

#### <u>Access</u>

By car: Toulouse ring road, exit n° 17 (Direction Montpelier motorway) or exit n°18 (Direction Bordeaux). If coming from Toulouse town centre, follow signs for Castres. Number 37 bus - 'Cité de l'espace' bus stop. To get to the 37 bus, alight at subway station 'Jolimont'.

Geographical coordinates (GPS) 43°35'12'' degrees North-1°29'38'' degrees East latitude

## 2014 PRICES



## **2014 OPENING CALENDAR**



## The Cité de l'espace at a glance

27 June 1997, the Cité de l'espace was inaugurated by Dominique Baudis, Deputy Mayor of Toulouse and Claudie Haigneré (astronaut and Cité de l'espace sponsor).

**10 July 1998**, the Cité de l'espace unveiled the life-sized MIR model station, acquired in the presence of a significant part of the crew that had spent some time in the 'space dacha'.

**30 October 2000**, opening of a unique extension known as the "Terr@dome" and its "Earth, the living planet" show. By entering a gigantic sphere, visitors embark on a journey to discover the Earth. A trip stretching across 4.5 billion years, gradually building awareness of the most important possession we have for the future: the Earth.

**25 October 2002:** inauguration of a new permanent exhibition room: Destination Mars, allowing visitors to explore the many facets of the red planet as well as past and future missions to Mars.

2 June 2003: live broadcast of the launch of the European Mars Express probe (EADS-ASTRIUM – ESA).

**31 October 2003:** visit from Léon Bertrand, State Secretary for Tourism. The Cité de l'espace was officially certified as a 'Disability-friendly Tourism Site' (intellectual, hearing, mobility and visual).

4 January 2004: live broadcast at the Cité de l'espace of the very first images taken of Mars by NASA's Spirit rover.

24 March 2004: live broadcast at the Cité de l'espace of the launch of the ROSETTA probe.

**10 May 2005**: Astralia, the 6<sup>th</sup> continent is unveiled, an IMAX show room featuring a giant screen and new generation Planetarium.

4 July 2005: live broadcast at the Cité de l'espace of Deep Impact, a meeting between one of NASA's probes and a comet.

**25 October 2005**: Opening of the Mini Astronaut Square.

6 April 2006: Opening of the Kids' Base: a new area specially designed for the younger generation (6-12 years).

7 and 8 July 2007: 10th anniversary of the Cité de l'espace: 2 event-packed open days, attracting over 22,000 visitors

4 October 2007: inauguration of the 'incredible history of space' Cosmomania exhibition on 4 October, marking 50 years since space was first conquered. Celebrations with the participation of some leading space institutions and a vast number of astronauts from Europe, the US and Russia.

**20 July 2009**: The Cité de l'espace celebrated 40 years since Man took the very first step on the Moon, with the participation of a number of astronauts: Jean loup Chrétien, Thomas Pesquet, Philippe Perrin

**12 April 2011**: The Cité de l'espace celebrated 50 years of Man in space with the participation of two young astronauts: Thomas Pesquet (ESA) and Maxim Suraev (ROSCOSMOS).

5 October 2011: The Cité de l'espace registered its 4,000,000th visitor

29 May to 2 June 2012: The Cité de l'espace organised the 2012 annual congress for the European Network of Science Centres and Museums (ECSITE):

1000 science professionals from 40 countries came to exchange ideas and thoughts on their work.

6 August 2012: Live tracking of the Curiosity Rover landing on Mars in the context of the temporary Explore Mars exhibition.

14 September 2012: official inauguration of the Cité de l'espace's new permanent exhibitions.

## The Cité de l'espace at a glance

Visits



Visitor profiles (2013)





#### Where visitors come from (2012)



#### **INVESTMENT AMOUNTS SINCE OPENING (2007 figures)**

23 million euros in initial investment, 60% funded by the Ville de Toulouse and the remaining 40% provided by public and private partners. Successive reinvestment has now brought this figure up to 48.7 million euros excluding tax.

#### **DISTRIBUTION OF CAPITAL**

Total capital of 2,766,400 euros. The Ville de Toulouse is the majority shareholder (56% of capital). The remaining capital is spread between other shareholders (Astrium SAS, Conseil Régional Midi-Pyrénées, Centre National d'Etudes Spatiales, Caisse d'Epargne de Midi-Pyrénées, Météo-France, Caisse des dépôts et consignations, Dexia - Crédit local de France).

#### STAFF

115 employees (full-time equivalent) work at the Cité de l'espace: the average age is 40, 34% of the team are management and supervisory staff, 66% are non-management employees.

## Cité de l'espace press contact:

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