## *Journey to the Centre of the Galaxy*

The Public Affair Department of the French Atomic Energy Commission (CEA) has produced a touring exhibition on the basis of the exhibition presented at the Palais de la Découverte in Paris (France) from Februrary 3rd to May 3rd 2009 in the context of the International Year of Astronomy (IYA).

The exhibition " *Journey to the Centre of the Galaxy*" proposes a trip from the Earth to the giant black hole at the centre of our Galaxy.
This trip, fully illustrated by pictures, allows the discovery of the large variety of the celestial objects while progressing through the different stages of the star evolution as viewed in the different lights of the Universe.

The exhibition is organized in 10 stages reproducing 10 stopovers of the trip with three parallel tracks

- red track : each stage explains a different stage of the stellar evolution
- green track : each stage is illustrated with images obtained in a different wavelength
- blue track : each stage provides the position inside the Galaxy and the distance traveled from the Earth

The last part of the exhibition is devoted to the European space mission « Herschel » launched in June 2009 to explore the infrared radiation of the Galaxy and the far Universe

Additional contents complementary to the exhibition are provided in a multilingual (French-English-Spanish-Chinese) DVD including :

- virtual tour of the exhibition
- animation module showing the 3D track of the journey to the Centre of the Galaxy
- audiovisual description of the different scientific instruments that provided the astronomical images in the different wavelengths
- audiovisual modules (history of the astrophysical space exploration at CEA, launch of a scientific stratospheric balloon, Saturn exploration by the spacecraft Cassini, educational modules explaining the infrared radiation)
- interactive QUIZZ

Internet link : http://irfu.cea.fr/Sap/Phocea/Vie_des_labos/Ast/ast.php?t=actu&id_ast=2547

## *Technical characteristics of the exhibition*

Composition :
- 11 panels (dimensions : width 115 x height 215 cm) mounted on independent Roll-up supports
Material : Artist Heavy
Classification : Non-fire B1
Total weight of the 11 panels+supports = 73,19 kg
Packaged in a wooden box (Total dimensions: Height 67,5 x Length 122 x Width 61cm), Weight 45 kg Volume = 0,502 m3

- 1 DVD with multimedia contents

Total Weight : about 118 kg volume 0,5m3

*The exhibition is proposed on loan and is available in four languages : French, English, Spanish, Chinese*

For additional informations,
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## *Exhibition contents*


**STAGE 1 :**
SATURN, NEAR THE END OF THE SOLAR SYSTEM
The ringed planet is a frozen world with strangely-shaped moons

Travel to Saturn and toward the edge of the Solar system. The first stage is a discovery of the stunning images of the giant planet taken by the Cassini spacecraft since June 2004.
The complexity of Saturn rings and satellites is a reduced model of the planet formation

DISTANCE: SATURN = 69 LIGHT-MINUTES


**STAGE 2** :
THE WORLD NEAR THE SUN
An encounter with sister stars and distant planets

Close-by stars and remote exoplanets.
A visit to a close-by star similar to the Sun and to the distant exoplanets

DISTANCE: SIRIUS (8.6 LIGHT-YEARS), 51 PEG (50 LIGHT-YEARS)


**STAGE 3 :**
THE DARK CLOUDS THAT GIVE BIRTH TO STARS

Diving into the heart of dark clouds – the first stages of the formation of stars are visible thanks to micro-wave radiations.
Where and how do the stars start their lifes ?

DISTANCE : RHO OPHIUCI (394 LIGHT-YEARS)


**STAGE 4:**
NEBULAE – THE CRADLE OF STARS
When stars are born, they are enveloped in dust and are only visible by their infra-red radiation.

Discovery of stellar nurseries, deep inside gas clouds

DISTANCE: ORION NEBULA (1760 LIGHT-YEARS)


**STAGE 5:**
THE GLORIOUS LIFE OF STARS
The youngest stars are the ones that light up the sky and are visible to the naked eye

Exploring the visible sky

DISTANCE: CLUSTER MESSIER 35 (2,800 LIGHT-YEARS)


**STAGE 6:**
THE LAST STARBURSTS
The eventful end of a star's life: a ball of gas with a hot core visible by ultraviolet light

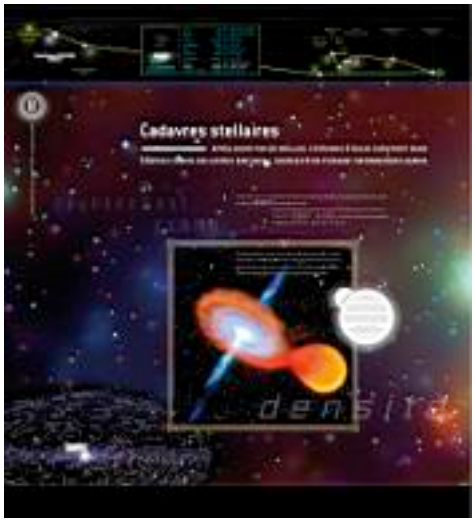
The first steps toward the end create the most beautiful nebulae.

DISTANCE: CAT'S EYE NEBULA (3,300 LIGHT-YEARS)


**STAGE 7:**
COSMIC CATACLYSMS
The death of a star emits a burning blast that is visible in x-rays and disperses the ingredients of life into space

Stellar fireworks illuminate the sky

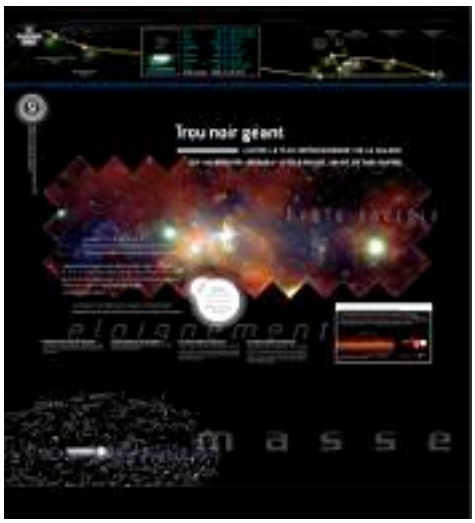
DISTANCE: KEPLER'S SUPERNOVA (16,000 LIGHT-YEARS)




**STAGE 8:**
STELLAR CORPSES
When they stop shining, some stars survive in space in the form of exotic stars, sources of powerful gamma rays

Dying stars leave behind highly dense objects rotating very rapidly

DISTANCE: BINARY X-RAY SOURCE '1E1740.7-2942' (25,000 LIGHT-YEARS)




**STAGE 9:**
GIANT BLACK HOLE
The most formidable object in the Galaxy is a silent, invisible monster, hiding in its heart itself.

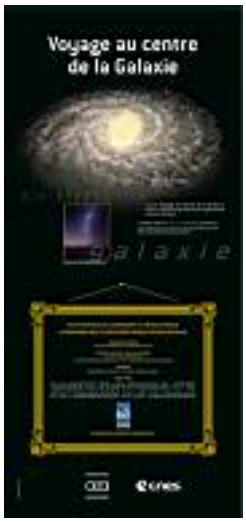
At the exact centre of the Galaxy, a giant black hole with a mass higher than 4 million Suns

DISTANCE: CENTRE OF THE GALAXY (26,000 LIGHT-YEARS)


**STAGE 10 (EPILOGUE):**
GIANT MIRROR IN SPACE
The Space Observatory HERSCHEL: Throwing light on worlds buried deep in the Universe

The largest space mirror (3.5 meters in diameter) is now in space to study the evolution of galaxies and the mystery of the birth of stars.

Launch of the satellite: June 14th 2009 by an Ariane-5 rocket from the Kourou base in French Guyana




**CREDITS**
Exhibition by CEA (Commissariat à l'Energie Atomique or French Atomic Energy Commission) in partnership with the French Ministery of Foreign and European Affairs (MAEE)
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