

# Horizon

## Immersive film at the Planétarium Rio Tinto Alcan

Audience: ages 12 and up    Experience: 360° fulldome    Length: 29 min.

### Scanning the horizon in search of answers

Since time immemorial, humankind has sought to learn what lies in the hidden part of our vast universe. Little by little, scientific discoveries are revealing its secrets and pushing back the frontiers of the observable universe. *Horizon* explores the question of the expansion of the universe established by the astronomer Georges Lemaître and demonstrated by the discovery of cosmic background radiation—the first light in the universe.

In a fulldome screening at the Planétarium Rio Tinto Alcan, the film tells the story of the great astronomers of the 20th century and their roles in the evolution of cosmology, from an Earth-centred static universe to a potentially infinite one that has been evolving ever since the Big Bang.

*Horizon* was directed by Hiromitsu Kohsaka under the supervision of Eiichiro Komatsu, director of the department of physical cosmology at the Max Planck Institute for Astrophysics in Germany. The French version of the film was produced with the help of the team at the Planétarium Rio Tinto Alcan.

#### FEATURED IN HORIZON

##### Henrietta Leavitt

In 1912, she set out a new method of calculating astronomical distances that would forever change the way we see the universe.

##### Edwin Hubble

Using the Leavitt method, Hubble observed for the first time in 1923 that other galaxies exist beyond the Milky Way, thus pushing back the frontiers of the universe.

##### George Lemaître

In 1928, the Belgian priest and astronomer was the first to interpret the receding galaxies observed by Hubble as an indication that the entire universe was expanding.

##### Arno Penzias and Robert Wilson

While trying to solve an interference problem with their new radio telescope, the duo discovered in 1964 the most convincing evidence of the expansion of the universe: cosmic background radiation.

##### Eiichiro Komatsu

His current observations of cosmic background radiation show that invisible components determine the evolution of the cosmos, whereas the matter we are aware of represents just 5% of the universe.

#### CREDITS

##### Planning, directing and script

Hiromitsu Kohsaka

##### Produced by

Masaaki Tanaka

##### Music

Yoshihisa Sakai

##### Supervision

Eiichiro Komatsu

##### Synthetic images

LiVE Company Ltd

##### Awards and distinctions

Best film - Fulldome Festival Brno 2018 (Czech Republic)

Honourable mention - Jena Fulldome Festival 2018 (Germany)

Best documentary - Minsk International Fulldome Festival 2018 (Belarus)

Excellent Technology Award - JAAP International Short-Film Festival 2018 (Japan)