# Blanets

**Source: TH**

Interstellar, Christopher Nolan's 2014 sci-fi masterpiece, presents three captivating planets orbiting **black holes**, known as **blanets, which scientists speculate could exist in reality.**

- Scientists in Japan theorized in 2019 that **planets could form near supermassive black holes** from massive dust and gas clouds observed in their vicinity. These planets, termed **"blanets," are not anticipated to resemble Earth.**
- Planets are formed when the dust and gas swirling around a young star collide and clump together. A similar process could be in **play near supermassive black holes,** where planets take shape inside the disc and eventually become blanets.
- Blanets are projected to be significantly larger than Earth, approximately 3,000 times its size.
    - To avoid gravitational destruction, **blanets would need to orbit the black hole** at a distance of approximately 100 trillion kilometers.

# BLACK HOLES

## ABOUT

- A place in space with extremely high gravity pull; even light can't escape (hence, invisible)
- The strong gravity is due to matter being squeezed into a tiny space

*The term 'black hole' was coined in the mid-1960s by American physicist John Archibald Wheeler*

## DETECTION

- By seeing how stars very close to black holes act differently than other stars
- In April 2019, scientists at the Event Horizon Telescope Project released the first-ever image of a Black Hole (shadow, more precisely)

### *Albert Einstein and Black Hole*

- First predicted their existences in Theory of General Relativity
- It showed that when a massive star dies, it leaves behind a small, dense remnant core

*India's first dedicated satellite, AstroSat observed for the very first-time rapid variability of high energy X-ray emission from a black hole system*

## TYPES

- Miniature (Hypothetical):
  - The smallest; size of just 1 atom
  - Mass: varies from 1/100th of a milligram to the mass of a large mountain
  - Believed to be formed when universe began
- Stellar:
  - Mass: 20x the mass of sun
  - Believed to be formed due to Supernovae explosion

*Supernova is an exploding star that has reached the end of its life*

- Supermassive
  - The largest
  - Mass: >1 million suns together
  - Every large galaxy has a supermassive black hole at its centre
  - Believed to be made at the same time as their home galaxy


*Sagittarius A is the supermassive black hole at the centre of Milky Way (mass: ~about 4 mn suns)*

*The Sun will never turn into a black hole as it is not big enough to make a black hole*

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**Read more:** Black Hole