

Back in 1967...

Do you know

the true nature of these mysterious objects; something like holes in the Universe?



Einstein

In 1915, the legendary scientist Albert Einstein established the theory of general relativity.

Dr. John Wheeler

$$E=mc^2$$

And...

$$ds^2 = -\left(1 - \frac{2GM}{c^2 r}\right) c^2 dt^2 + \frac{dr^2}{1 - \frac{2GM}{c^2 r}} + r^2(d\theta^2 + \sin^2\theta d\phi^2)$$

$r = 0$ 特点

It is difficult...

in 1916, a physicist Karl Schwarzschild found a weird but interesting solution to Einstein's equation.

Karl Schwarzschild

His solution shows that it is theoretically possible for something to have such strong gravity that ...

even light cannot escape.

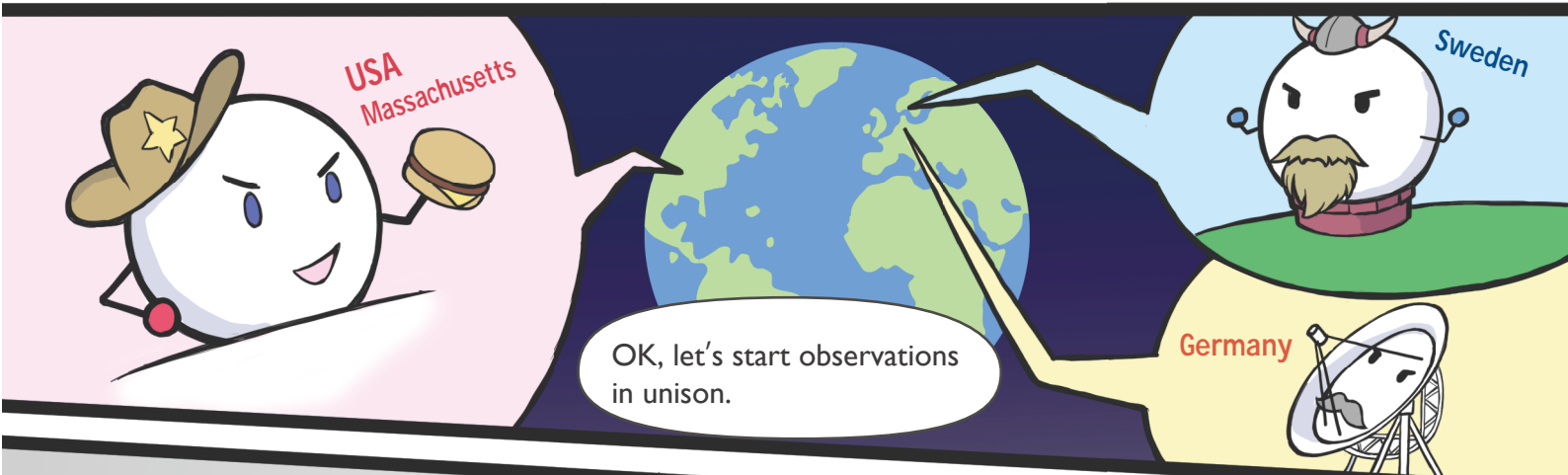
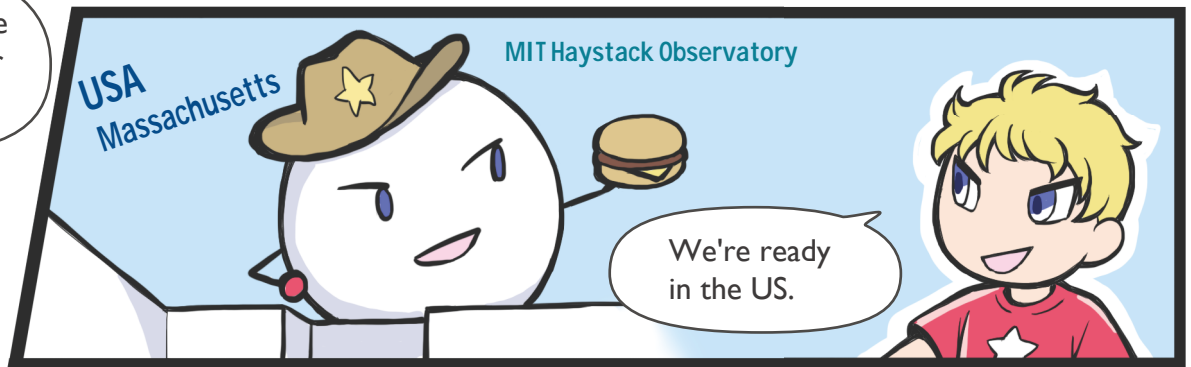
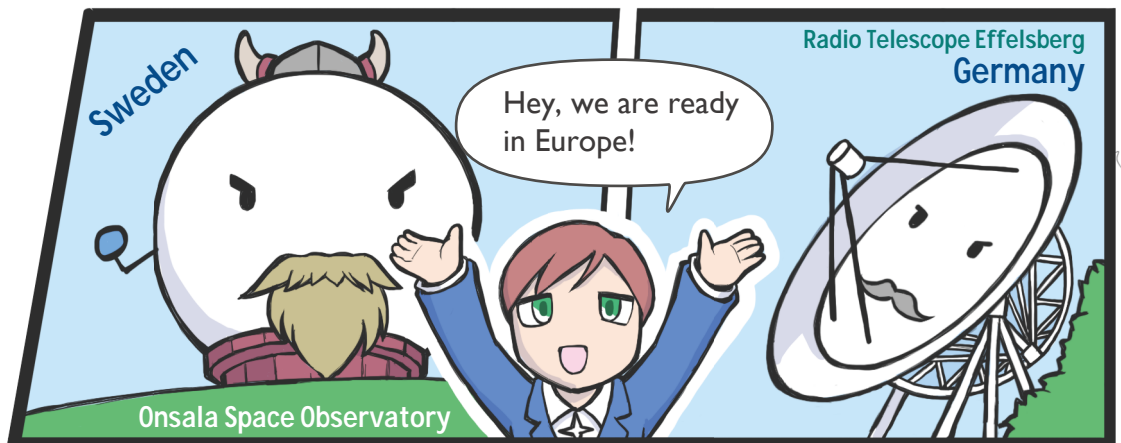
It is something like a bottomless hole in the Universe. Now we call this...

a "BLACK HOLE."

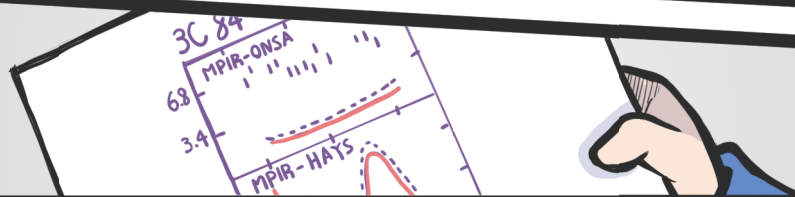
In 1982...

... this is only the first try,

but it could enhance the capability of our radio telescope

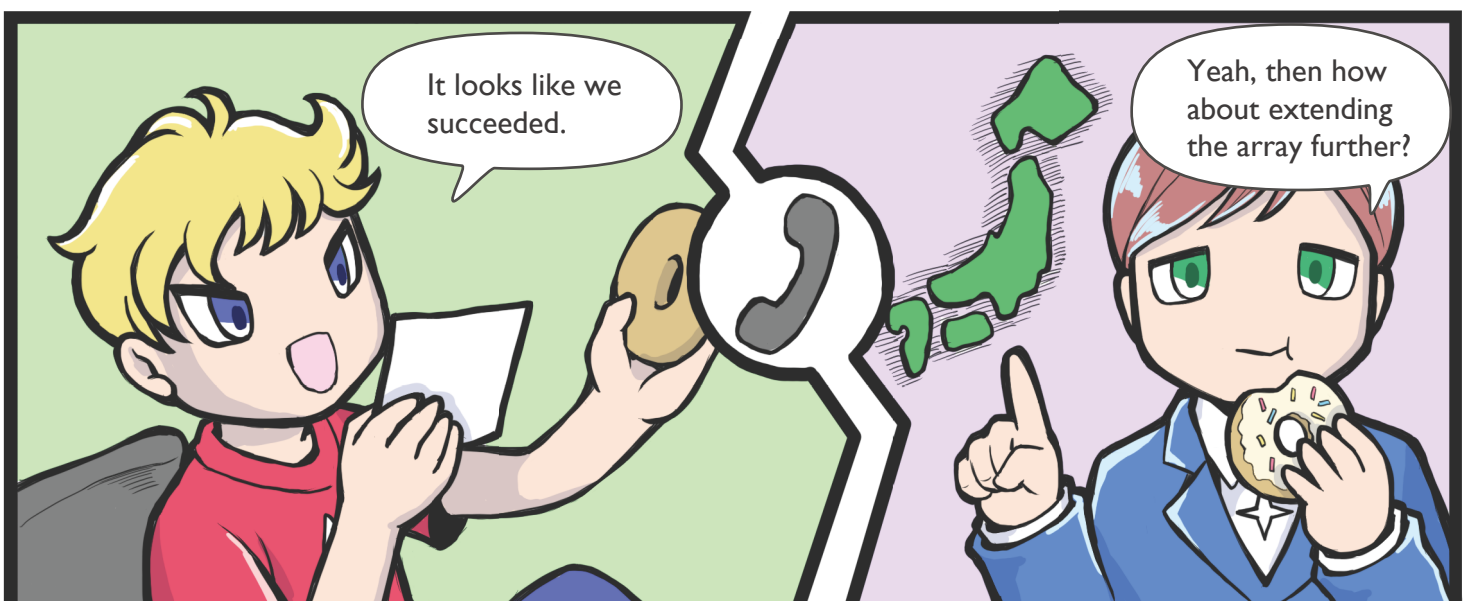


Well done!



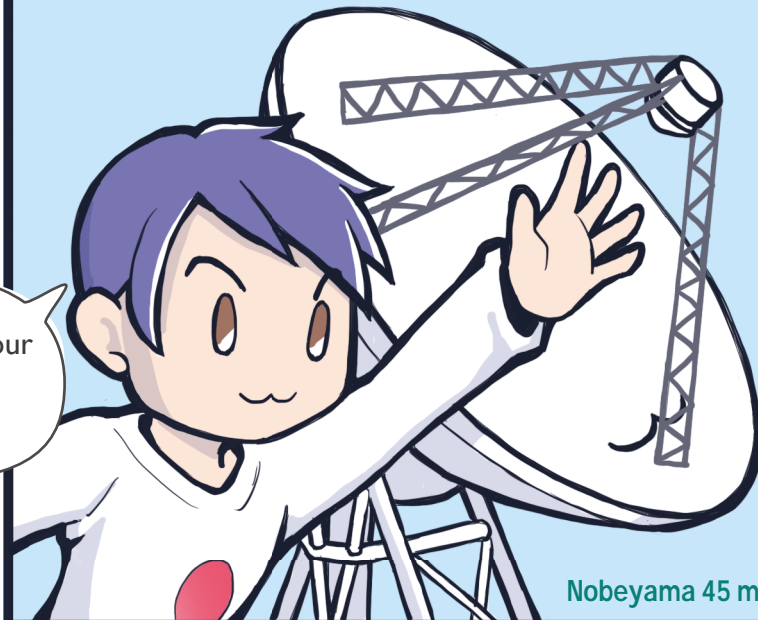
It looks like we succeeded.

Yeah, then how about extending the array further?



In 1985...

We'll help with our Nobeyama 45 m telescope!



Welcome, Japan!

We succeeded in making transatlantic observations, so the next step is to go global.

Japan

Nobeyama 45 m Telescope



Let's include an Asian telescope to enhance the telescope power.

We now have new telescopes too.

OVRO 40m



Good!



We got even higher resolution!



The future of this project is really promising.



3C84

J2

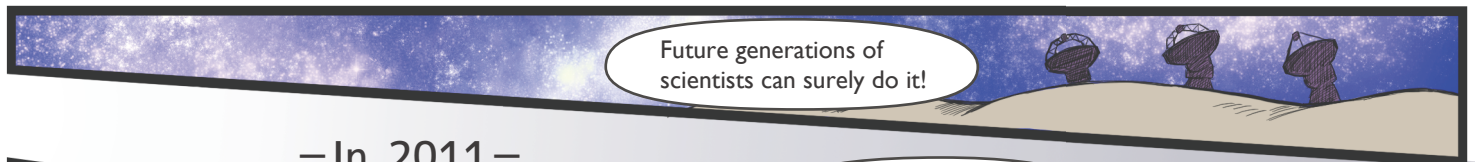
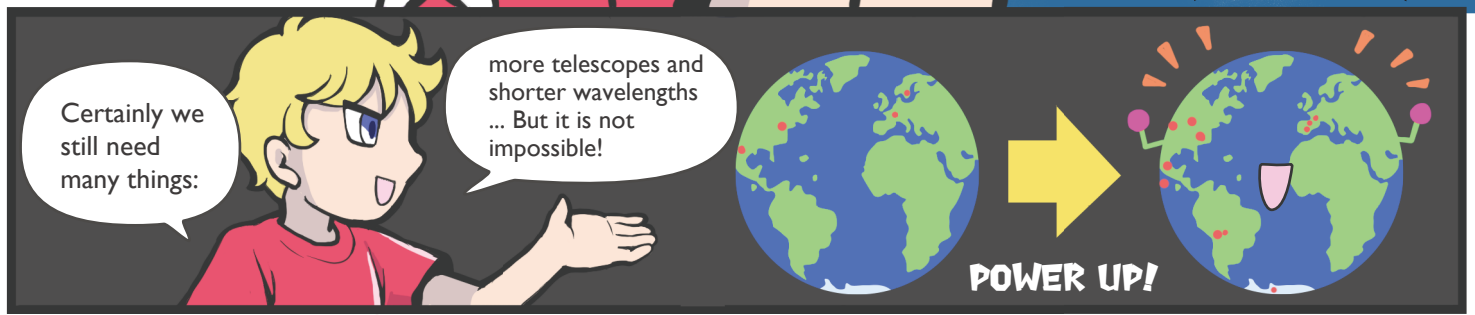
0.04 pc
100 mas

J1

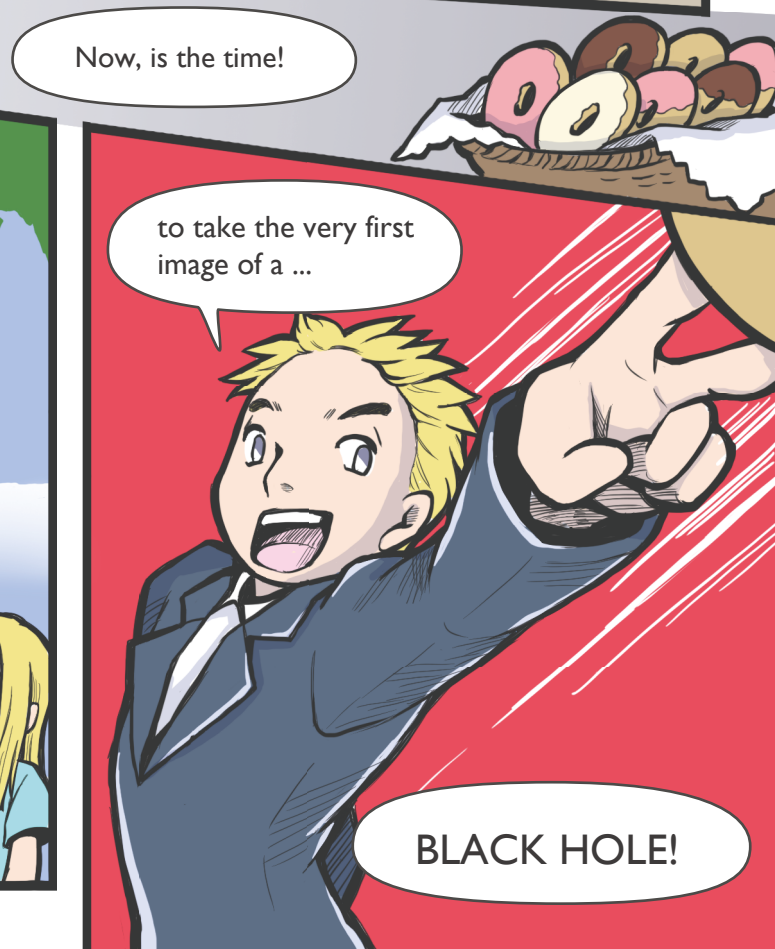
Hey, we can go much further!

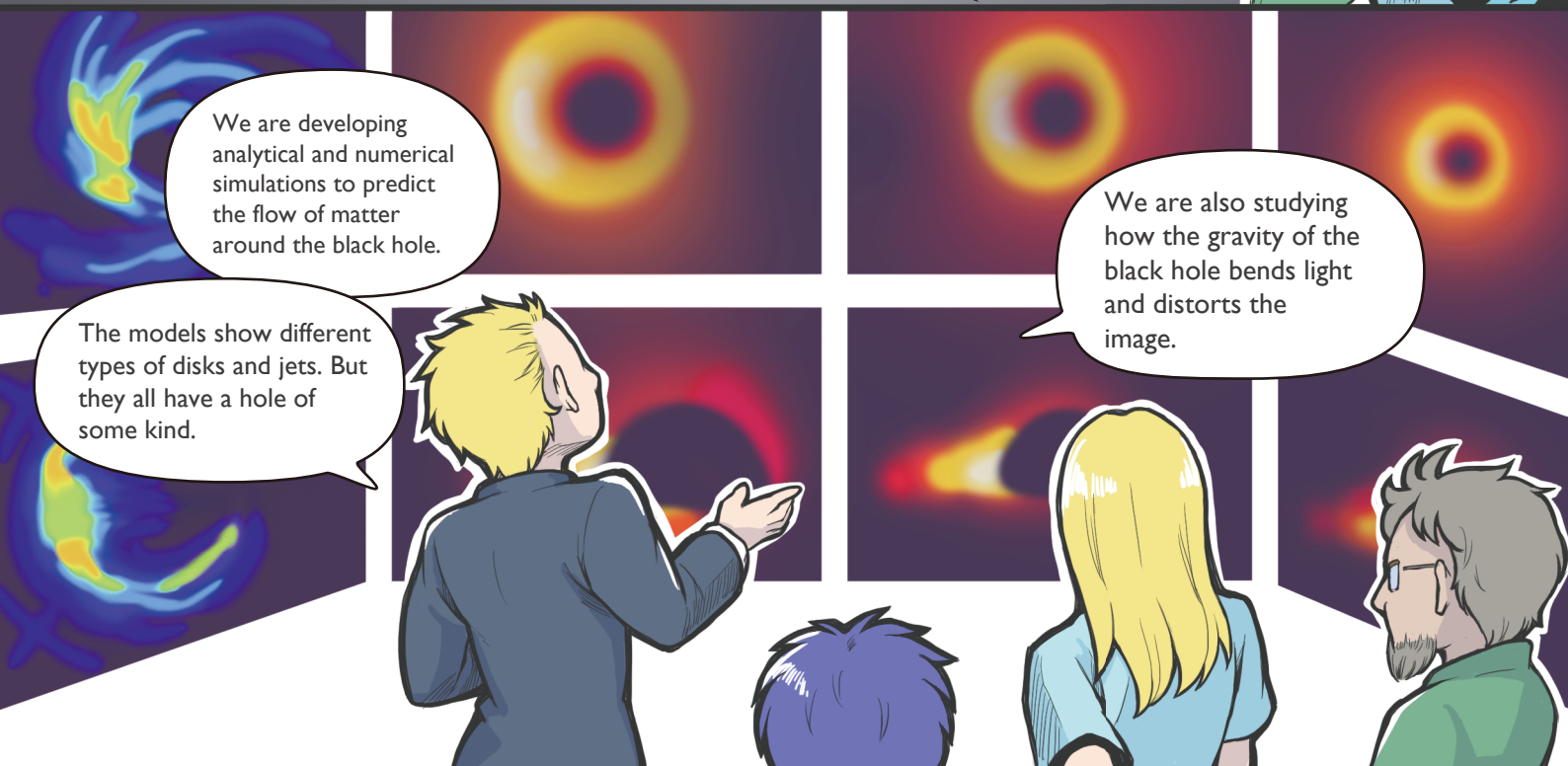
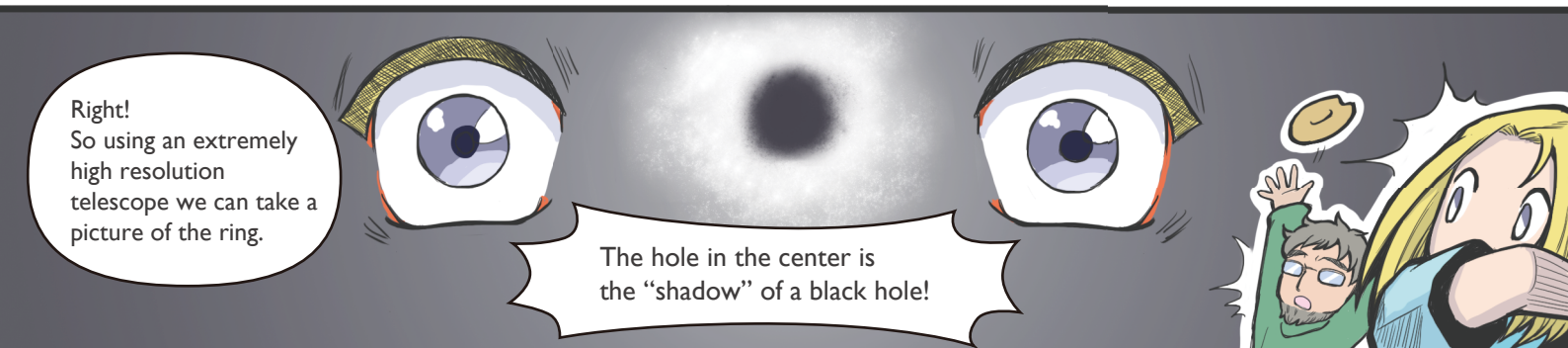
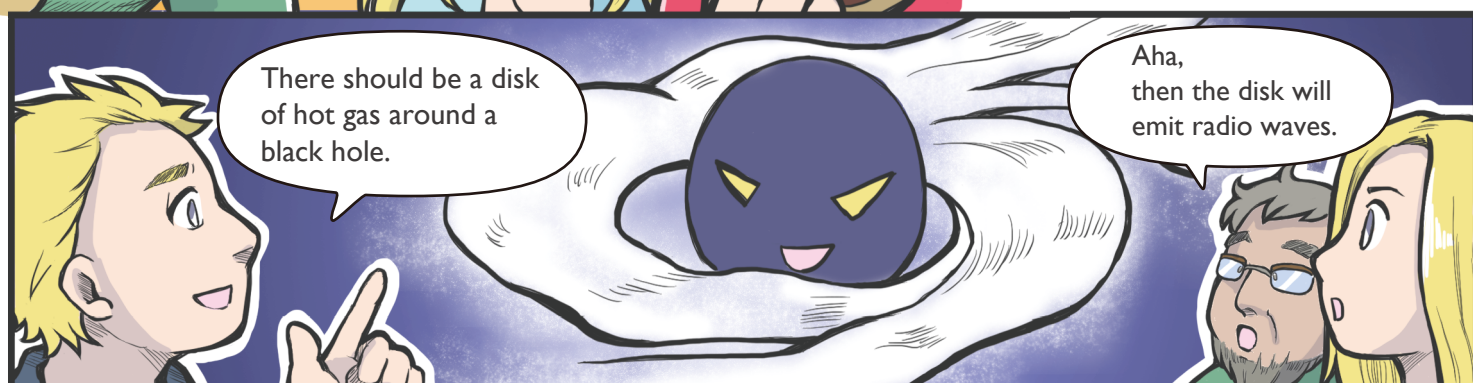


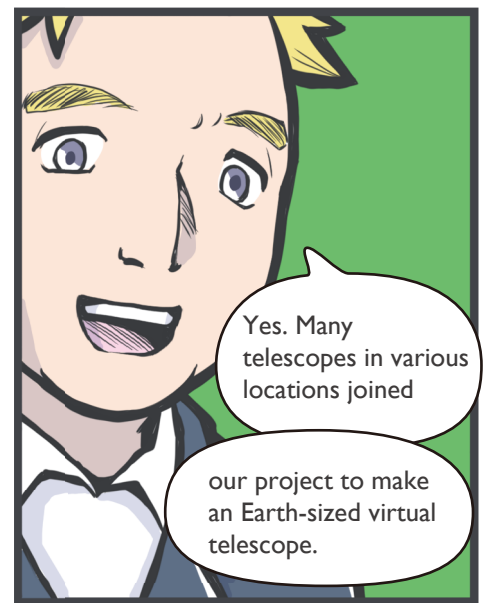
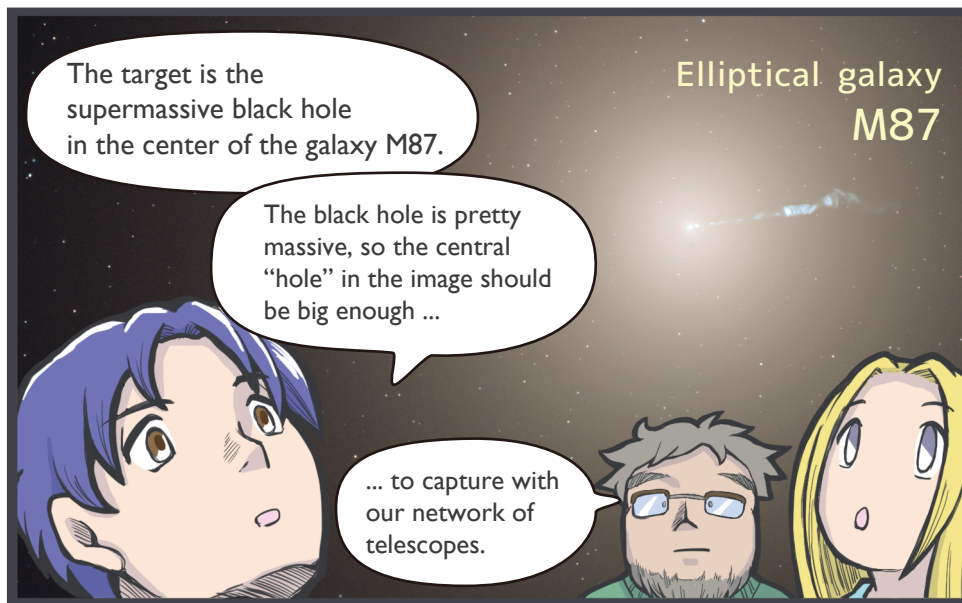
What?



— In 2011 —







Credits: NASA, ESA and the Hubble Heritage Team (STScI/AURA); Acknowledgment: P. Cote (Herzberg Institute of Astrophysics) and E. Baltz (Stanford University)

