

Asteroid-blast space cannon on track, Japan scientists say

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Japan Aerospace Exploration Agency (JAXA) associated professor Makoto Yoshikawa displays the full-scale model of Japan's space probe "Hayabusa" (Falcon) at JAXA's laboratory in Sagami-hara in Kanagawa prefecture, suburban Tokyo on May 19, 2010

Japanese scientists readying to blast a crater in an asteroid to find out what it is made of said Wednesday they have successfully tested their

new space cannon.

The Japan Aerospace Exploration Agency (JAXA) said the huge weapon would fire a metal bullet at the [surface](#) of asteroid 1999JU3 some time in 2018.

The Hayabusa-2, which will launch the weapon, will then land on the surface and take samples of the newly-disturbed soil as part of a project searching for organic materials or for any sign of water.

"The Hayabusa-2 project is progressing as planned," a JAXA spokesman told AFP.

The craft is set to be carried into space next year by one of JAXA's dedicated H2A rockets, which are launched from southern Japan.

The probe will be flung on a trajectory that its operators hope will take it into the path of 1999JU3 four years later.

The unpoetically-named 1999JU3 is thought to be more likely than many asteroids to harbour the building blocks of life.

Once it has reached its destination, Hayabusa-2 will hover above the asteroid to release the space cannon, which is intended to drift gently towards the barren surface.

As the weapon floats down, Hayabusa-2 will make its way around to the other side of the asteroid, where it can shelter its delicate sensor array from any flying debris or shrapnel.

With its mothership safely out of the way, the canon will detonate itself, hurling a large bullet-like object into the surface below it.

After the dust has settled, Hayabusa-2 will return to inspect the crater, touching down on the asteroid's surface where it will scoop up samples for analysis back on Earth.

The probe is expected to find its way home some time in 2020, carrying with it a valuable scientific load that is expected to be seized on by scientists.

The pristine materials the blast will expose are an essential part of the puzzle for researchers trying to understand how planets are formed, and—possibly—will help them to learn about the way lifeforms could arise, JAXA said.

Hayabusa-2 is a successor to the original "Hayabusa", a deep-space probe that picked up [asteroid](#) dust from a potato-shaped space rock and returned to Earth 2010.

Scientists hope Hayabusa-2 will build on the work of its predecessor, which was only able to collect surface dust samples that could have been altered by years of exposure to the various forms of energy it encountered in space.

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