Scientists Discover Earth's 'Twin' Planet

Scientists say they have found the most Earth-like planet ever discovered - circling a star 600 light years away.

It is among 500 planets found to orbit stars beyond our solar system - and the smallest and the best-positioned to have liquid water on its surface.

Kepler-22b could prove a key to the ongoing quest to learn if life exists beyond Earth. San Jose State University astronomer Natalie Batalha, of Nasa's Kepler Space Telescope which made the discovery, said: "We are homing in on the true Earth-sized, habitable planets."

And Douglas Hudgins, Kepler programme scientist at Nasa, said: "This is a major milestone on the road to finding Earth's twin."

The telescope, which was launched three years ago, is staring at about 150,000 stars in the constellations Cygnus and Lyra.

It looks for faint and periodic dimming as any circling planets pass by, relative to Kepler's line of sight.

The results are used to assess how many of the stars in the Milky Way galaxy harbour potentially habitable, Earth-size planets.

Kepler-22b is the first such planet orbiting a Sun-like star discovered, scientists reported in findings to be published in The Astrophysical Journal.

Planets about the same distance from their parent stars as Earth take roughly a year to complete an orbit.

Scientists want to see at least three transits to be able to rule out other explanations for fluctuations in a star's light, such as small companion stars.

Results are also verified by ground and other space telescopes.

Kepler-22b, which is about 2.4 times the radius of Earth, sits squarely in its star's so-called "habitable zone", the region where liquid water could exist on the surface.

Scientists say that if the planet has a surface and a cushion of atmosphere similar to Earth's, it would be about 72F (22C), about the same as a spring day in Earth's temperate zone.

:: A light year is the distance light travels in a year, about six trillion miles.