

# TIME AND PERSEVERANCE: THE HINDU EDITORIAL ON NASA'S MARS PERSEVERANCE ROVER

Relevant for: Science & Technology | Topic: Space Technology & related matters

The possibility of life on Mars has excited the imagination. Among the scientific community, the current thinking is that life may have existed on the earth's ruddy planetary neighbour a long time ago. Understanding this will enrich our studies of evolution and nurture of life outside the earth. The recent [NASA mission, Mars 2020, that was launched from Cape Canaveral, Florida](#) on July 30, 2020, [landed on the Jezero Crater in Mars on February 18](#), to much celebration. Of special magnificence was the entry, descent and landing of the mission's Perseverance rover, described as the 'shortest and most intense part'. Entering the Martian atmosphere at about 20,000 km per hour, the mission had to bring the Perseverance rover to a halt on the surface in just seven minutes. Also, since it takes 11 minutes for a radio signal to reach the earth from Mars, the mission control could not really guide the landing, and the rover had to complete this process by itself. During the complicated landing process, using a camera eye, the rover checked the ground below to avoid hazardous terrain, all in a few breathtaking minutes.

NASA's exploration of Mars has focused on finding traces and trails of water that may have existed, and relate it to finding evidence of ancient life. Its earlier Mars expedition which carried the [Curiosity rover](#), landed [on August 5, 2012](#). It identified regions that could have hosted life. Expected to last at least the duration of one Mars year, or about 687 earth days, the science goals this time are to look for signs of ancient life and collect rock and soil samples. Perseverance will take the inquiry made by Curiosity to the next level and search for signs of past life by studying the Jezero Crater. The crater was [chosen for study as based on an earlier aerial survey](#), it was found to be home to an ancient delta. Clay minerals and carbonates were seen, making the crater a good place to search for life's existence. Further, the rover will study the geology here and store samples in a place that can be accessed by a future mission which would return them to the earth. The rover will test out technologies that could help sustain the presence of humans there in the future. This includes an instrument to extract oxygen from the atmospheric carbon dioxide. The rover also carries a helicopter named Ingenuity that is specially designed to fly in Mars's thin atmosphere; its sole purpose would be to demonstrate flight on Mars. Finally, to the question whether little green microbes did inhabit Mars in the distant past — only time and Perseverance can answer that.

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