Paper ID: 84277
student

IAF SYMPOSIUM ON ONGOING AND NEAR FUTURE SPACE ASTRONOMY AND SOLAR-SYSTEM SCIENCE MISSIONS (A7)
Science Goals and Drivers for Future Exoplanet, Space Astronomy and Space Physics (2)

Author: Ms. Fidan Huseynzada
Baku State University, Azerbaijan

Mr. Alizada Ravan
Baku State University, Azerbaijan
Ms. Nargiz Aliyarli
Baku State University, Azerbaijan
Ms. Elza Salimli
Baku State University, Azerbaijan

CREATION OF THE PERSEVERANCE ROVER AND ITS MISSION ON MARS.

Abstract

As part of NASA's Mars 2020 project, Perseverance, also known as Percy, is a car-sized Mars rover built to investigate the Jezero crater on the planet. On July 30, 2020, it was launched from the Jet Propulsion Laboratory. On February 18, 2021, confirmation that the rover had touched down on Mars was received. Perseverance has been in operation on Mars for three years and six days, as of February 24, 2024. The mini-helicopter Ingenuity, an experimental technological testbed that accomplished the first powered aircraft flight on a different planet on April 19, 2021, was also transported to Mars by the rover. Among the rover's objectives are locating ancient Martian habitats that were able to support life and looking for signs of past microbial life in such habitats, gathering rock samples to be stored on the Martian surface, and evaluating the Martian atmosphere's ability to produce oxygen to get ready for crewed trips in the future. As it moves, perseverance gathers soil and rock samples,despoting them tubes for later collection by NASA and European Space Agency missions. Even with the development of tiny, low-power science instruments for space missions, many laboratory analyses are still not feasible or cannot be completed with enough precision in space. Furthermore, reproducibility is a key component of research, so returning Persevernce's samples to Earth would allow us to conduct the same tests in other laboratories. This article will conclude with a discussion of the rover's contribution to the exploration of the Red Planet and a wealth of information regarding Mars's possible habitability.