

IAF SPACE EXPLORATION SYMPOSIUM (A3)  
Mars Exploration – missions current and future (3A)

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STATUS AND OVERVIEW OF NASA'S INSIGHT MARS MISSION –  
INSIGHT:[INTERIOR EXPLORATION USING SEISMIC INVESTIGATIONS, GEODESY AND HEAT  
TRANSPORT]

**Abstract**

This paper will give the current status of NASA's InSight mission to Mars, the Interior Exploration using Seismic Investigations, Geodesy and Heat Transport (InSight) to be launched in May 2018. InSight is a lander mission, with strong international partnership, that was planned for launch in March 2016. However, in December 2015, NASA suspended the 2016 launch because its prime science instrument, the Seismic Experiment for Interior Structure (SEIS) developed by CNES (France), had a vacuum leak that could not be fixed in time to be ready for the launch period of 2016.

NASA and CNES worked closely together in the past 2 years to overcome the technical challenges of the SEIS instrument and were able to build a new instrument that corrected the previous vacuum problem. The new instrument was delivered by CNES to NASA in 2017, and the InSight mission is now ready for launch. The launch period begins on 05 May 2018 and closes on 08 June 2018. The landing on Mars is scheduled for 26 November 2018.

InSight's science is very unique, and will address fundamental issues of planet formation and evolution with a study of the deep interior of Mars. The InSight mission will seek to understand the evolutionary formation of rocky planets, including Earth, by investigating the crust and core of Mars. InSight will also investigate the dynamics of any Martian tectonic activity and meteorite impacts and compare this with like phenomena on Earth.

The paper will present a summary of the current status of the InSight mission, including instrument installation, spacecraft readiness for the 2018 launch, the cruise to Mars, the plans for Mars arrival in November 2018, the start of instrument deployment, and the beginning of science operations.