

Press Release

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French-U.S. space cooperation Meeting with JPL at CNES Head Office

Tuesday 27 March, CNES President Jean-Yves Le Gall received a delegation from the Jet Propulsion Laboratory (JPL) at the agency's Head Office. Discussions with this key partner of France in space focused on current joint space missions such as InSight, SWOT and Mars 2020. The visit coincided with the IAF Spring Meetings, an international event being held in Paris this week from 27 to 29 March.

The French SEIS instrument (Seismic Experiment for Interior Structures) to be flown on the U.S. InSight mission (INterior exploration using Seismic Investigations, Geodesy and Heat Transport), set to launch on 5 May from Vandenberg Air Force Base, California, is designed to listen to the "beating heart" of Mars. InSight is a geophysics mission that will land on the surface of Mars on 26 November, where it plans to operate for two years to study the red planet's deep interior structure and better understand how rocky planets form, using SEIS to measure Mars' tectonic activity to learn more about its structure, for example the size of its core, its state and the thickness of its mantle.

Satellite altimetry has been a cornerstone of French-U.S. space cooperation for more than 25 years. In April 2021, the SWOT satellite (Surface Water and Ocean Topography) will be launched into an 891-kilometre orbit to revolutionize the science of hydrology, carrying an altimeter capable of surveying Earth's lakes and rivers. With its two radar antennas perched at the end of a 10-metre boom, SWOT's Ka-band Radar Interferometer instrument (KaRIn) will afford continuous coverage of a wide 120-kilometre swath, giving it the capability to acquire measurements of surface water height in lakes more than 100 metres wide and rivers and flood zones covering more than 250 x 250 metres with an accuracy better than 10 metres, and to quantify slopes with an accuracy on the order of 1.7 cm/km.

SuperCam, under CNES's responsibility, is one of the seven science instruments of the U.S. Mars 2020 mission. It will be mounted on a rover similar to Curiosity and, like its predecessor ChemCam, will fire a laser at points on target rocks, heating them to temperatures of up to 8,000°C. It will thus vaporize them into a plasma, generating a flash of light that will then be resolved into separate spectral components to reveal the rocks' chemical composition. SuperCam also comprises a Raman spectrometer and an infrared spectrometer that will be used to establish the mineral composition of rocks and detect any organic molecules present. The mission's planned launch date is July 2020.

On the sidelines of today's meeting, Jean-Yves Le Gall commented: "France and the United States' longstanding cooperation in space keeps turning up rich new scientific discoveries. Whether working to probe the secrets of Mars or supporting efforts to tackle climate change, we are committed more than ever to continuing to move forward together."

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