



## Seminar by Dr. Cristian Carli

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### The Enigmatic Mercury Surface and Bepicolombo Mission

Mercury is the innermost, smallest and less studied terrestrial planet. The closeness to the Sun has always made difficult the Hermean's observation from the Earth; whereas the Sun's gravitational field and planet orbital velocity complicated the definition of orbital missions. Therefore, only in 2011 we had the first insertion into the Mercury orbit of a spacecraft, MESSENGER, a NASA Discovery mission. Thanks to its instruments we had a first global view of the Hermean surface and indication about magnetic field and the environment. On 20th October 2018 the cornerstone Bepicolombo mission, a joined mission between ESA and JAXA, was launched and it will enter into Mercury's orbit on December 2025. Two different spacecrafts will release in orbit, one dedicated to study the surface and interior of the planet, and the other devoted to the magnetosphere.

Bepicolombo inherited the knowledge obtained by MESSENGER and will define the answer to the open questions about the evolution of the planet. MESSENGER reported several pieces of the puzzle, addressing hypotheses without give defined answers. In this talk we'll discuss in particular the peculiar characteristics of the Hermean surface, highlighting what we know and how Bepicolombo is going to increase our understanding of the innermost planet of the Solar System.

**4 Dicembre 2018 ore 11:00**

**Aula B7 - Dipartimento di Scienze della Terra e dell'Ambiente  
Via Ferrata, 1 – Pavia**

