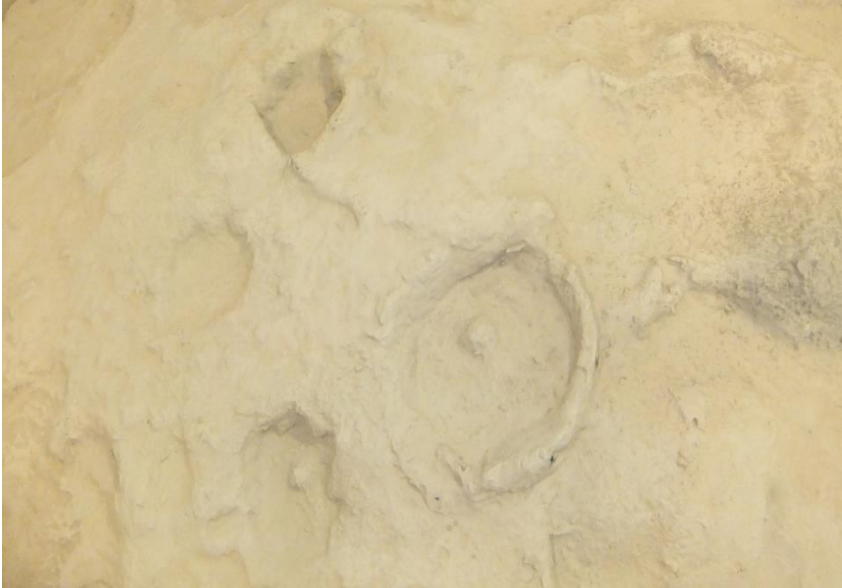


Permanently Shadowed Regions on Mercury and Moon



Craters in the Lunar north pole and the south pole are in permanent shadow for millions of years, in particular the Shackleton crater. This crater lying in permanent shadow is known to contain layers of molecular ices. Even in one crater the molecular composition varies with respect to the temperature gradient within the crater.



Mercury holds some of the coldest craters that harbour molecular ices. Irrespective of how close we are to the Sun, it is the permanently shadowed regions that can act as shelter and in fact are the cold chemical factories synthesizing the complex molecules.