A new nanopore flow-cell technology has been demonstrated to identify DNA in situ in Atacama field testing and will later this year be deployed by ISS astronauts for on-orbit sequencing.

- The MinION is a novel, miniature, off-the-shelf instrument capable of detecting biological polymers such as DNA, RNA and proteins, without the need for bulky sequencing equipment, amplification (requiring selection and mixing of chemical solvents), or centrifuges.

- The portable MinION device was designed by Oxford Nanopore Technologies and uses consumable flow cells that contain a sensor array of several hundred pores. For output, the device plugs directly into a computer USB port.

- Preliminary opportunistic testing of a device in conjunction with PSTAR field deployment (ARADS, B. Glass) in Chile in February 2016 showed that the MinION can detect and sequence DNA in salt samples from the hyper-arid Atacama Desert.

- Additionally, groups from two NASA centers are collaborating to launch a MinION to the ISS in June.