

Providing Access to leading research facilities



The Europlanet 2020 Research Infrastructure (Europlanet RI) is a major (€10 million) programme funded under Horizon 2020 to foster transnational collaborations that will enable Europe to be at the forefront of planetary science.



A central part of the programme is to allow researchers (including Postgraduate students) employed within the EU, academic or industrial, access to a comprehensive set of state of the art laboratory facilities and field sites tailored to the needs of planetary research community. Access for researchers based outside the EU is also possible but there are some limitations. Access is arranged through Trans-national Access (TA) programmes (see overleaf).

OPEN CALL <http://www.europlanet-2020-ri.eu/>

Call for research visits

There will be 4 calls for visits to Europlanet facilities 2016 - 19.

**The first will close on
30th November 2015 Noon CET**

Frequently asked questions are answered on the Web page

but for enquiries contact the Europlanet Central office
Europlanet-Office@open.ac.uk

Support for Researchers

Transnational Access provides researchers with travel and subsistence when visiting the Facility.

For Laboratory facilities a typical visit is expected to last a week. For field sites expeditions are expected to last between 2 and 4 weeks.

Applications are submitted via www.esf.org/europlanetcall

Planetary Analogue Field Sites

bit.ly/Europlanet2020RI-Analogues



Rio Tinto, Spain (managed by INTA-CAB). Extreme acidic environment comparable ExoMars-2018 exploration site. Example of how life may have evolved in extreme conditions and may provide clues as to the type of bacterial life that may once have been present on Mars.

Ibn Battuta Centre (managed by International Research School of Planetary Sciences; IRSPS). Desert environment including sand dunes, rocky desert, regoliths, evaporates and flash flood drainage system. Used for study of geomorphology and extreme biota, dry and evaporitic lakes (intermittent lakes and sabkhas) and the testing of field operations (including human Martian exploration).

Glacial and volcanically active areas of Iceland (Managed by Matis Ltd): Diverse but well-characterised habitats including glacial-permafrost, geothermal systems and young volcanic habitats. Used for instrumentation testing for lunar and Mars missions, research into controls of surface features in volcanic regions in tundra and glacial environments, and study of biogeochemistry of hydrothermal systems and the controls on travertine and sulphate deposition.

Danakil Depression, Ethiopia (managed by IRSPS, in collaboration with the University of Mekele). One of the most inhospitable areas on Earth. A large number of extreme environments form an intricate complex geological and biological setting comprising volcanoes, hydrothermal systems, salt flats and deposits, and extreme microbial communities. Access in 2018 and 2019 only.

Tirez Lake, Spain (managed by INTA-CAB). Seasonal endorheic hypersaline lagoon formed under semiarid conditions in the Iberian Peninsula. Environment provides an excellent analogue for chloride and sulphate deposits on Mars. Tirez has also been proposed as an analogue of Europa's oceans, based on the hydrogeochemical characteristics of the lagoon and its similarity with spectral data from Europa's surface. Access in 2018 and 2019 only.



Top: Glacial environment, Iceland. Bottom: Danakil Depression, Ethiopia

Europlanet Facilities

Distributed Planetary Simulation Facility (DPSF)

bit.ly/Europlanet2020RI-DPSF

The Distributed Planetary Simulation Facility (DPSF) will provide European users access to seven internationally renowned research centres that enable the simulation or characterisation of planetary conditions and materials.

Planetary Emissivity Laboratory (DLR, Berlin)

The only spectroscopic infrastructure worldwide for measuring emissivity of fine-grained powder materials, bulk materials and coatings at temperatures up to 1000° C across the whole infrared wavelength range.

Planetary Environment Facilities (Aarhus University, Denmark)

Capable of recreating the key physical parameters such as temperature, pressure (composition), wind flow and importantly the suspension/transport of dust or sand.

Mars Chamber (Open University, Milton Keynes, UK)

Capable of recreating the Martian surface environment (-70° C to +20° C, 6 mbar CO₂/N₂ atmosphere over a regolith) with illumination.

High-pressure laboratory (VU University, Amsterdam, Netherlands)

High-pressure, high-temperature laboratory dedicated to studies of the chemical and physical properties of the minerals, magma, and fluids in rocky planets and moons.

Cold Surfaces spectroscopy (Institut de Planétologie et Astrophysique de Grenoble (IPAG), Grenoble, France)

Spectro-Gonio Radiometer that allows measurement of the bidirectional reflectance spectra and photometric distribution functions of various types of planetary materials (granular to compact) over almost the whole solar spectrum.

Interactive Microbiome Research Facility (Medical University Graz, Austria)

Core facilities for Molecular Biology, Mass Spectrometry, Microscopy and Flow Cytometry are complemented by Bioinformatics and Biostatistics. Combining all (OMICS-) technologies (incl. (meta)genomics, transcriptomics, proteomics, metabolomics). The IMRF includes highly-sensitive nucleic acid-based detection of microorganisms and anaerobic cultivation facilities.

Petrology-Mineralogy Characterisation Facility (Mineral and Planetary Sciences Division, Natural History Museum, London, UK)

World leading sample characterization instrumentation and methodologies. The facility focuses on computed tomography (CT) and X-ray diffractometry (XRD).

Distributed Sample Analysis Facility (DSAF)

bit.ly/Europlanet2020RI-DSAF

The Distributed Sample Analysis Facility (DSAF) allows visitors to measure samples under analogue conditions of Mercury, Venus, Mars, the Moon, near-Earth asteroids, comets and the icy moons of the outer planets. Life detection techniques will support the study of terrestrial extremophiles and the range of potential habitable environments in the Solar System. High pressure and temperature petrology facilities allow investigation of the workings of planetary interiors and the evolution of planets. The computer tomography facility provides high-quality geochemical imaging of samples returned from space to allow detailed comparisons with analogue studies.

Radiogenic & non-traditional stable isotope facility: Geology & geochemistry (Faculty of Earth and Life Sciences, VU University, Amsterdam, Netherlands)

Three multi-collector (MC) mass spectrometers (MS), FinniganMat 262 RPQ plus, ThermoFinnigan TritonPlus & MC-ICPMS (Neptune) plus ancillary geochemical support (sample characterisation, mineral separation, sample preparation, fluid inclusion heating-freezing stages, Raman microscope, scanning electron microscope, electron microprobe and dedicated clean labs for elemental separation).

Radiogenic, non-traditional stable & rare gas isotopes (Le Centre de Recherches Pétrographiques et Géochimiques (CRPG), Nancy, France)

Ion probe facility (Cameca ims 1270-MC and Cameca ims 1280); Helium and Nitrogen isotope facility. (1 VG 5400, 1 VG 603, 2 Helix SFT, 1 Helix MC and 1 GV Noble); Stable Isotopes (ThermoFinnigan Neptune Plus MC-ICPMS, ThermoFisher MAT253 and GV Isoprime); Radiogenic Isotopes (TIMS: FinniganMat 262 & ThermoFinnigan Triton).

Radiogenic & stable isotopes (The Open University, Milton Keynes, UK)

NanoSIMS 50L latest generation Secondary Ion Mass Spectrometer (Ion Microprobe); Stable Isotope Facilities: Two different systems are available, based around Thermo MAT 253 mass spectrometers: (i) offers high precision oxygen three isotope measurements of silicates and other minerals using a laser fluorination system; (ii) is a compound specific isotope ratio mass spectrometer system.

Radiogenic & non-traditional stable isotopes (Institute for Planetary (IfP), University of Münster, Germany)

Ultra-clean laboratory for the preparation of extraterrestrial (ET) samples; NeptunePlus MC-ICPMS; sample preparation laboratories (digestion lab, mineral separation, heavy liquids) and geochemical support (ICP-MS, SEM, EMP).

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