

Europlanet 2020 RI Education and Outreach projects focusing on Extreme Habitable Worlds

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1. Introduction

Since 2005, Europlanet has been providing European's planetary science community with a platform to exchange ideas and personnel, share research tools, data and facilities, define key science goals for the future and engage stakeholders, policy makers and European Citizens with planetary science.

Europlanet 2020 Research Infrastructure (RI) is a €9.95 million project to address key scientific and technological challenges facing modern planetary science by providing open access to state-of-the-art data, models and facilities across the European Research Area. The project was launched on 1st September 2015 and is funded under the European Commission's Horizon 2020 programme. It carries networking, transnational access and joint research activities and services towards more than 33 beneficiaries and many associate partners from 22 countries.

Europlanet 2020 RI provides:

- Free transnational access to world-class laboratory facilities that simulate conditions found on planetary bodies, as well as analogue field sites for Mars, Europa and Titan
- Virtual access to the diverse datasets and visualisation tools needed for comparing and understanding planetary environments in the Solar System and beyond
- Networking activities, including meetings, workshops and personnel exchanges, to strengthen the community, develop industry-academic collaboration, discuss latest scientific results, and set the strategy and goals for planetary science in Europe for decades to come.

As an Advanced Infrastructure, Europlanet 2020 RI places particular emphasis on widening the participation of previously under-represented research communities and stakeholders, including new EU Member States. Our outreach and education programmes engage Europe's citizens, teachers, students and policy makers with cutting-edge planetary science and exploration.

2. Focusing on Planetary Habitability

One of the most important activities of Europlanet are its involvement with five (5) planetary analogue field sites (PFA):

- Rio Tinto Field Site, Spain
- Ibn Battuta Centre, Morocco
- The glacial and volcanically active areas of Iceland, Iceland
- *Danakil Depression, Ethiopia*
- *Tírez Lake, Spain*

PFA offer access to these well-characterised terrestrial field sites that have been selected so as to provide the most realistic analogues of surfaces of Mars, Europa and Titan, to which planetary missions have either recently been directed or are planned. Access is provided for scientists to perform high quality scientific research and test instrumentation for space missions under realistic planetary conditions and undertake comparative planetology research.

In addition to PFA, Virtual Access activities (VESPA) are making available the diverse datasets and visualisation tools needed for comparing and understanding planetary environments in the Solar System and beyond.

In its early days Europlanet established an Exoplanet Discipline working group on issues related to the characterisation of exoplanets, including long-time habitability. Two main scientific areas were identified related to terrestrial exoplanets and short periodic Jupiter-like exoplanets. requiring the joint expertise of Europlanet scientists for finding solutions which are relevant to the evolution of habitable planets and giant exoplanets. The interest in planetary habitability remains high until today. In January 2018 Europlanet

2020RI supports the Planetary Exploration 2061 workshop (Technologies and Infrastructures Workshop for Planetary Exploration, Horizon 2061)

3. Widening Participation: Focus on Education and Outreach

Europlanet 2020 RI has an active outreach and dissemination programme to engage European citizens with the scientific, social, economic and cultural impact of planetary science. The Europlanet Media Centre and Europlanet's social media channels provide news from the European planetary science community and commentary on planetary events. Europlanet 2020 RI promotes public engagement through science communication training and best practice workshops, the Europlanet Prize for Public Engagement and a funding scheme for innovative outreach projects. In addition, since 2010 Europlanet has been leading other European research infrastructures in engaging policy makers with the cutting-edge science and technological challenges of planetary science and exploration.

Target audiences include outreach providers, educators, informal learning, media, policy makers, industry, general public, teachers and students. Our activities include:

- Outreach services and community support
- Best practice meetings, training workshops
- Collections of planetary-related outreach activities
- Dissemination to stakeholders
- Europlanet Media Centre (Press releases, blogs, interviews)
- Social media (Twitter, Facebook, Instagram, LinkedIn, Webinars)
- Policy engagement (Dinner debates, briefings, conference sessions and exhibitions)
- Outreach tools
- 5-minute animations on planetary topics

Europlanet is also funding innovation by setting up a scheme aiming to capitalise on the inspirational value of planetary science in order to attract young people in science.

Through a prize for public engagement and regular science communication training workshops, Europlanet hopes to encourage planetary scientists to communicate their research to wider audiences and to discuss issues with non-specialists and to encourage partnerships between scientists and educators, industry and professional communicators.

Europlanet's yearly Best Practice Workshops aim in developing new ways of communicating planetary science subjects or engaging "hard-to-reach" audiences with planetary science.

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Short Summary

Europlanet 2020 RI is providing European's planetary science community with a platform to exchange ideas and personnel, share research tools, data and facilities, define key science goals for the future and engage stakeholders, policy makers and European Citizens with planetary science. Its focus on Extreme Habitable Worlds through a variety of activities will be discussed.