# Planetary Terrestrial Analogues Library (PTAL) a novel database to support rover missions to Mars



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### Planetary Terrestrial Analogue Library (PTAL)

Funded by the European Research Council through the H2020-Compet-2015 programme (grant 687302), the PTAL project will provide science operation teams (and, in a broader extent, the whole scientific community) with free access to an extended multi spectral database of terrestrial analogues materials. The four main characteristic of the PTAL database are summarized below. Through the collaboration of the Universities of Valladolid (UVa, Spain), Oslo (UiO, Norway), Paris-Sud (UPSud, France), and IRAP (France) the PTAL database will offer Raman, LIBS, NIR and XRD data collected by means of commercial and planetary exploration-derived instruments.







The PTAL collection includes over 100 different analogue samples, that have been collected from 15 terrestrial locations. All the selected materials have strong mineralogical and geochemical analogies with the geological units detected at the landing sites of Perseverance (Jezero Crater) and Rosalind Franklin (Oxia Planum) rovers.





Diffractometric and spectroscopic data gathered from the analysis of the terrestrial analogues are available through the PTAL platform, which beta version is accessible through the following link: <a href="http://erica.uva.es/PTAL/">http://erica.uva.es/PTAL/</a>. For each sample, a table is provided that resume and compare the molecular and elemental results gathered by the different analytical techniques. Spectra and diffractograms can be either visualized online or downloaded.

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Through the PTAL platform, future users will have access to the executable version of the IDAT/Spectpro software, which can be downloaded for both windows and MacOS operating systems.

#### IDAT/SpectPro (Instrument Data Analysis Tool)

IDAT/SpectPro provides access to an extended set of analytical tools for spectral analysis such as labelling, trimming, shifting, normalization, baseline correction, and features a generalpurpose spectrum calculator to perform lineal combinations, product, division and derivative of spectra. An automated identification algorithm to classify Raman spectra is also under development. This algorithm is based on the comparison of peak positions and intensities, which has provided good results, even for the detection of all samples present in simple mixtures.

> Welcome to the downloads page! Select to download SpectPro - PTAL 1.4.2446





SpectPro - PTAL is compatible with Windows 7, Windows 8, Windows 10 and MacOs Catalina. You will only need to download, install and when you start the program you will be asked for your PTAL web credentials to be able to access all the features





### PTAL: physical access to the samples

To conclude, future users can also request physical access to the terrestrial analogues, so that the data contained in the PTAL library can be combined with further analysis in the laboratory.



## Thank you

![](_page_6_Picture_1.jpeg)