

The OpenPlanetary initiative and association: Status Update

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General aspects

Bottom-up initiatives to promote scientific and technical openness are growing in the last few years [1]. Planetary science missions cumulatively produce large amounts of complex and heterogeneous data exploited by large research projects [2] and originated often on team-specific expertise that ends in datasets and - sometimes - in code available in archives such as NASA Planetary Data System (PDS) or ESA Planetary Science Archive (PSA) archives, moving towards various scales of planetary data infrastructure [3].

OpenPlanetary (OP) started in 2015 as an informal gathering of planetary scientists and software developers interested in sharing information, data and advance the use of Open Source tools for accessing, visualising and analysing planetary data, as well as to foster reproducibility [4]. In 2018, OP was established as a non-profit organisation in order to provide us with a legal framework to sustainably fund our projects and activities, and better serve the planetary science community as a whole.

One of the flagship activities, winner of the EuroPlanet Outreach award in 2017 and still independently developed, is OpenPlanetaryMap [5] (<http://openplanetarymap.org>).

Framework and Community

The working tools of OP are those common to many similar topical initiatives, e.g. collaboration and communication (<https://openplanetary.slack.com>), social coding (<https://github.com/openplanetary>). The general community reaching channel is the OP website (<https://www.openplanetary.org>) and its blog (<https://medium.com/openplanetary>).

A late addition, integrating and inheriting some of the earlier functions of collaboration and communication in closed channels such as Slack is the new *OP Forum* (<https://forum.openplanetary.org>), intended as an open knowledge sharing platform. It is primarily intended for research professionals and students across

all planetary science disciplines and communities, and is also opened to science communicators, educators and amateurs. Our goal is to build a vibrant, diverse, and respectful community exchanging ideas on common planetary research and data analysis problems, new challenges, and opportunities.

OpenPlanetary, the EuroPlanet Society and beyond

OpenPlanetary, as an association, is member of the EuroPlanet Society and organises *OP Data Cafes*, hands-on sessions following an unconference format, within EPSC conferences and at other workshops. The OP framework (GitHub, Slack, Forum) is also used within the EuroPlanet Research infrastructure Networking Activity (NA) workshops such as the VESPA Mapping workshop, LPI/USGS Planetary Data Workshop editions of various years.

References

- [1] Molloy, J. C.: The Open Knowledge Foundation: Open Data Means Better Science. *PLOS Biology* 9(12): e1001195. DOI: 10.1371/journal.pbio.1001195, 2011.
- [2] Erard, S., et al.: VESPA: a community-driven Virtual Observatory in Planetary Science, PSS, DOI: 10.1016/j.pss.2017.05.013, 2017.
- [3] Laura, J. et al.: Towards a planetary spatial data infrastructure, *ISPRS International Journal of Geo-Information* 6.6:181, 2017.
- [4] Manaud, N., et al.: OpenPlanetary: An Open Science Community and Framework for Planetary Scientists and Developers, EPSC Abstracts, vol. 12, #EPSC2018-89, 2018.
- [5] Manaud, N., et al.: OpenPlanetaryMap: Building the first Open Planetary Mapping and Social platform for researchers, educators, storytellers, and the general public, EPSC Abstracts, vol. 11, #EPSC2017-27-1, 2017.