



# PortASAP

COST Action CA16215 - European Network for the Promotion of PORTable, Affordable and Simple Analytical Platforms

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## 3D printed smartphone-spectrometer for liquid analysis

**Hosting institution:** Universidade de Aveiro - Fábrica Centro Ciência Viva de Aveiro and Faculdade de Engenharia da Universidade do Porto, Portugal

**Minimum duration:** 2 to 8 weeks

The host institutions aim to develop OSH spectrometers using 3D printing casings and smartphone for liquid sample. The applicant will be mainly host in the Doing Maker Space of Fabrica and will participate to the elaboration of an OSH exposition related to chemical analysis. The following area are of interest.

**Optimisation of 3D printed spectrometer.** Optimisation of existing designs (<http://www.upb.edu/en/contenido/spectrometry-software-for-android>) to maximise the amount of pixels used for different models of smartphone.

**Design of cell holder.** Design of cell holder that can be adapted to different model and can support one or two UV cuvette and allowing side illumination (fluorescence) or axial illumination (<https://www.stlfinder.com/model/smart-phone-spectrometer-cuvette-holder-A3E6Bqwl/2686746>)

**Design of a simple experiment to test and compare the design.**

**Publication of YouTube tutorial and various languages.**

**Requirements:** no specific requirement.