

**PhD Position at EPFL**

**“Synergy of hyperspectral and microwave remote sensing data to derive bio- and geo-physical parameters for land applications”**

The Space Center EPFL<sup>1</sup> of Ecole Polytechnique Fédérale<sup>2</sup> de Lausanne, Switzerland has one open PhD position in the frame of the HyperSwissNet<sup>3</sup> project which involves several academic partners in Switzerland. The overall goal of this multidisciplinary project is to study hyperspectral remote sensing data based on data acquired by the APEX<sup>4</sup> airborne sensor developed in the frame of an ESA activity.

The research work of the PhD student in our lab concerns the development of models and retrieval algorithms using spaceborne or airborne remote sensing data for land applications. In particular, the synergy of optical (VIS+NIR) and microwave (SAR) data might yield improvement in order to obtain bio- and geo-physical parameters for vegetated (forestry, agricultural) areas and bare soil surfaces. The PhD research will involve a thorough and realistic description of the target being observed from the remote sensing sensor at both optical and microwave frequencies and the development of models to simulate the electromagnetic wave interactions with the area of interest. Based on the direct models developed to predict reflectance and backscattering coefficients, then inversion algorithms will be derived based on a physical description and the knowledge obtained with the direct models.

Requirements: Master of Science in Engineering Sciences or Physiques. Good knowledge of optical and/or microwave remote sensing and electromagnetics.

The salary will be according to EPFL standards. The starting date will be as early as possible after admission to the EPFL doctoral program. Your resume should be submitted by email to Dr. Maurice Borgeaud, director of the Space Center EPFL for a first screening, email: [maurice.borgeaud@epfl.ch](mailto:maurice.borgeaud@epfl.ch), who in case of interest will invite you to apply formally to the EPFL PhD program<sup>5,6</sup>.

---

<sup>1</sup> <http://space.epfl.ch>

<sup>2</sup> <http://www.epfl.ch>

<sup>3</sup> <https://hyperswissnet.wiki.geo.uzh.ch/Project>

<sup>4</sup> <http://www.apex-esa.org/apex/htdocs/modules/APEX/>

<sup>5</sup> <http://phd.epfl.ch>

<sup>6</sup> <http://phd.epfl.ch/page76428-en.html>