

PhD student position in support of developing FLEX higher-level photosynthesis products [ERC project].

We are searching for an outstanding candidate with a strong interest in geosciences and programming to cover a PhD student position at the Laboratory of Earth Observation (LEO) group in the Universitat de València, Spain, <http://jpl.uv.es/sentiflex/>. The position is fully funded by an ERC Starting Grant 2018-2022 entitled "Fluorescence-based Photosynthesis estimates for vegetation productivity monitoring from space" (SENTIFLEX), under the direction of Dr. Jochem Verrelst.

Project job description: SENTIFLEX is dedicated to developing a European vegetation productivity monitoring facility based on the synergy of Sentinel-3 with future FLEX satellite fluorescence data. These two European Earth observation missions offer immense possibilities to increase our knowledge of the basic functioning of the Earth's vegetation, i.e., the photosynthetic activity of plants resulting in carbon fixation. Two complementary approaches are envisioned to realize quantification of photosynthesis through satellite fluorescence and Sentinel-3 data. First, SENTIFLEX seeks to advance the science in establishing and consolidating relationships between canopy-leaving fluorescence and unbiased estimates of photosynthesis of the plants, thereby disentangling the role of dynamic vegetative and atmospheric variables. Second, consolidated relationships between fluorescence and photosynthesis will be used to build a FLEX-Sentinel-3 data processing assimilation scheme through process-based vegetation models that will deliver high spatiotemporally resolved information on Europe's vegetation productivity.

Duties: These will include:

- Participate in studies that relate fluorescence with photosynthesis based on experimental and modeled data. This involves the upscaling question from leaf mechanisms towards space-based observations.
- Develop an assimilation processing scheme based on (simulated) fluorescence data and Sentinel-3 data towards photosynthesis products.
- Optimize and automate the processing chain to enable autonomous functioning within the FLEX End-to-End mission performance simulator.

Skills and Experience: Highly motivated researchers with a Master's degree in remote sensing, informatics, physics, physical geography, bioengineering, machine learning, or mathematics are encouraged to apply. All candidates should have a solid understanding and knowledge of optical remote sensing, and being particularly interested in imaging spectroscopy, radiative transfer models and vegetation properties mapping. Solid coding skills (Matlab/Python), a critical and organized sense for data analysis, as well as maturity and commitment, strong communication, presentation and writing skills are a big plus.

Application details:

- Deadline: **December 1st 2017.**
- How? Send: 2-pages CV, motivation letter, papers if any, and one recommendation letter or contact
- When? Preferred starting dates: February 2018
- How long? 3 years contract
- How much? Salary according to UV scales including social security, health insurance benefits, and travel money.
- Where? Valencia, Spain, Mediterranean city, great weather, hike and beach. Excellent cost-of-living index = 55

Contact:

- Before applying: Informal inquiries may be addressed to Dr. Jochem Verrelst jochem.verrelst@uv.es
- Ready to apply? Send your dossier in one single PDF jochem.verrelst@uv.es, subject: "SENTIFLEX application PhD student"