HOSTING OFFER – MSCA POSTDOCTORAL FELLOWSHIP 2021 CALL

Offer title

Remote sensing of vegetation

Name of the supervisor

Aleixandre Verger

ORCID

0000-0001-9374-1745

Email

verger@creaf.uab.cat

EU Research Framework Programme

Horizon Europe/Marie Slodowska-Curie Action Postdoctoral fellowships 2021 call

Research Groups

Global Ecology Unit, http://globalecology.creaf.cat ; Copernicus Global Land Service, https://land.copernicus.eu/global/index.html

Hosting Description

Our main research is in the development of remote sensing methods for monitoring essential vegetation variables in the fields of environment, climate change, ecology and agriculture. We are also interested in the analysis and application of remote sensing products at global scale for the study of biogeochemical cycles, global change and climate change, and at the landscape scale for agriculture, forestry and land management applications.

Vegetation state and dynamics play a key role in global climate-carbon cycle. The importance of continuously monitoring the Earth's surface was recently recognized by Global Climate Observing System (GCOS 2010). Remote sensing is key for monitoring the state and function of vegetation due to the large spatio-temporal scales covered by satellite instruments. A set of Essential Climate Variables was identified as being both accessible from remote sensing observations and intervening within key processes (GCOS 2010). Among those related to land surfaces, the leaf area index (LAI) and the fraction of absorbed photosynthetic active radiation (FAPAR) may be derived from observations in the reflective solar domain. These vegetation biophysical variables are crucial in several processes, including photosynthesis, respiration and transpiration.

I currently coordinate the Marie Curie's MOVES project dedicated to develop advanced machine learning algorithms for the retrieval of essential vegetation variables from high spatio-temporal resolution satellite data (e.g. Sentinel-2). I am also in charge of the development, maintenance and evolution of the retrieval algorithms used for the generation of LAI and FAPAR products within the Copernicus Global Land (https://land.copernicus.eu/global/index.html) service which systematically produces a series of qualified bio-geophysical products on the status and evolution of the land surface, at global scale and at mid to low spatial resolution, in near real time every 10 days from Sentinel-3 data, complemented by the constitution of long term time series. I have also been leading the development of the operational algorithms for the retrieval of biophysical variables from satellite data for and Copernicus Climate Change (https://climate.copernicus.eu) among other operational initiatives including the generation of global long-term time series of LAI and FAPAR products from 1981 to present (https://postel.theia.cnes.fr/atdistrib/postel/client/#/home). These global long term time series will improve our understanding of climate forcing on vegetation dynamics and forthcoming studies will focus in the confrontations and evaluation of temporal trends and anomalies in vegetation with known variations in climate drivers and human activities.

Previous supervised MSCA fellow

Project manager of the Marie Curie Fellowship MOVES - http://www.creaf.cat/monitoring-vegetation-status-and-functioning-high-spatio-temporal-resolution-sentinel-2

Organization

CREAF, http://www.creaf.cat/msca-postdoctoral-fellowship-creaf

Through excellence in science we aim to be a Mediterranean and world-class research institution that pushes the frontiers of knowledge while addressing some of the biggest and more complex environmental challenges society faces this century.
Founded in 1987, CREAF is a public research and innovation centre in ecology, territorial analysis and environmental impact. We aim to create new knowledge and innovative solutions on ecology management and land-atmosphere interaction that helps society to mitigate Global Change effects, creating adaptation plans and boosting the resilience of nature.
CREAF´s expertise includes among other topics conservation ecology, land use policy, forest biomass and production measurements, powerful GIS technologies, remote sensing, fire ecology, and modelling ecosystem processes. It contributes to the development of methodological and conceptual tools designed to facilitate decision-making and improve environmental management.

Location

Cerdanyola del Vallès, near Barcelona, Spain

Offer Deadline

11th July 2021

Eligibility criteria

The applicant can be of any nationality. By the time of the 2021 MSCA-PF application deadline, applicants must: - hold a doctoral degree - do not have more than 8 years of full-time equivalent in research - not have spent more than 12 months in Spain in the three years immediately prior to the call deadline.

How to apply

Researchers willing to apply should check that they fulfil the eligibility criteria. Please send to verger@creaf.uab.cat and msca@creaf.uab.cat asap and at the latest by 11th July 2021: - your CV - a covering letter explaining why you wish to apply for an MSCA-PF at CREAF - an outline for a research project that would strengthen and complement the presented research profile Selected candidates will be informed by the end of July. Please include "MSCA PF 2021_Aleixandre Verger" in the subject line of your email.