

Dear Colleagues,

In the framework of the [SENSECO COST Action CA17143](#) "Optical synergies for spatiotemporal SENSing of Scalable ECOphysiological traits", [Working Group 1](#) would like to invite you to participate in the

→ SPATIAL SCALING CHALLENGE ←

What? The **SPATIAL SCALING CHALLENGE** is an open exercise where the participants are challenged to down-scale or retrieve relevant biophysical and plant physiological variables (e.g., leaf chlorophyll content, leaf area index, maximal carboxylation rate, non-photochemical quenching) from hyperspectral imaging spectroscopy data of a single scene provided to the participant. Any method is welcome!

Why? The goal is to identify the models and approaches used by the scientific community to assess the physiological state of vegetation from remote sensing, focusing on specific questions regarding spatial scaling and the use of ground data. By directly interrogating the community, we aim to understand the strengths, weaknesses, and capabilities of the biophysical retrieval methods applied to reach an understanding of vegetation function from remote sensing.

Who? Everyone is welcome to participate. We encourage PhD students as well as experienced researchers to tackle the challenge!

When? The SPATIAL SCALING CHALLENGE will be announced at the beginning of April 2022 and the participants will be able to send their results until the end of May.

How to participate? The exercise will contain synthetic top of canopy reflectance, solar-induced fluorescence, and thermal imagery together with ground ancillary data. Additionally, R, Python and Matlab scripts will be provided to import the data and export the results.

Final outcome All outcomes presented by the participants (maps of one or several parameters) will be evaluated against the reference datasets of the scene. All participants will be invited to coauthor a journal manuscript where the different data processing, scaling-protocols, and method used to discriminate between the plant ecophysiological status will be compared. This manuscript will be submitted for peer review by the end of September 2022.

*******Soon more info!*******

Please, feel free to distribute this email to your colleagues.

Thank you :-)

[SENSECO WG1 leading group](#)