



From sea to vineyard: use of marine bacteria and seaweed extracts as biotools against *Botrytis cinerea* infection in grapevines.

Place of work/: GPS Lab (<https://grapevinesyslab.rd.ciencias.ulisboa.pt>) and BIOTOX Lab (<https://biotoxlab.wixsite.com/home>) (C2 building, 4th floor)

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Grapevine (*Vitis vinifera* L.) is one of the most important fruit crops worldwide with over 7.4 million hectares of cultivated area. During the past decades, climate change brought novel challenges for grapevine production, not only through abiotic factors as extreme weather events (eg heatwaves) but also through biotic factors, namely the appearance of new diseases or a higher incidence of well-known diseases. In the last years we have been focused on understanding how grapevine cope with oomycete and fungi-associated diseases through multi-OMIC approaches. More recently we have been looking also to molecules that have either priming or biocide capabilities. On that sense, a novel approach is being exploited, based on marine-driven resources and their application in regenerative agriculture practices – a sea-to-vineyard approach.

With this project, we intend to test the application of either marine bacteria consortia (as priming agents) or invasive seaweed species extracts (as a source of secondary metabolites and biocide activity) in the control of grapevine grey mold disease caused by the fungus *Botrytis cinerea*. Priming or biocide capabilities will be evaluated through a combination of gene expression, biochemical and phenotyping approaches.

This project will be developed under the frame of the REVINE: *Regenerative agricultural approaches to improve ecosystem services in Mediterranean vineyards* project (<https://www.revine-prima2020.org>)

“Students selected for this project, after thesis registration, are eligible to apply to the BioISI Junior Programme (supporting 8 students with a 6-month Scholarship(BII), being the selection criterium the academic merit of the candidates.”