Università di Genova

MSCA IF 2020 @UniGe

Supervisor Expression of Interest

MSCA domain
Environmental and Geosciences (ENV)

1. Prof. Massimiliano Burlando
2. Prof.ssa Mariachiara Chiantore
3. Prof. Paolo Giordani

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Supervisor Expression of Interest

1.

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MSCA domain	Environmental and Geosciences (ENV)
Research focus area	According to the main objectives of the ERC Project THUNDERR (www.thunderr.eu), the research proposal focuses on the development of an automated procedure for thunderstorm detection and analysis in the Ligurian Sea (Western Mediterranean) based on satellite images, meteorological radar, scanning wind lidar and in situ meteorological measurements. The analysis will be used to identify and classify the weather conditions in which thunderstorms develop and to understand the time-space evolution of storm-induced downburst outflows (downbursts). Special focus will be put on studying the link between lightning activity and gust fronts in squall lines and mesoscale convective systems.
Department	Department of Civil, Chemical and Environmental Engineering
Short description of the department/laboratory/research group	The Wind Engineering and Structural Dynamics Research Group (WinDyn, www.windyn.org) at the University of Genoa (Italy) has been working

	jointly in the fields of atmospheric physics and civil engineering for more than 40 years, at the academic, educational and technical level, with a strongly interdisciplinary approach. Nowadays, WinDyn is considered a leading group in the wind engineering sector at the international level. Transient winds induced by thunderstorms and their effects on structures is one of the key topics that the WindDyn is currently working on through the European Research Council funding.
Candidate fellows must send their candidature with a short description of their profile to the following email address	massimiliano.burlando@unige.it

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2.

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MSCA domain	Environmental and Geosciences (ENV)
Research focus area	Marine ecology Shallow rocky shores Conservation and Restoration Ecosystem functioning
Department	Department of Earth, Environmental and Life Sciences (DISTAV)
Short description of the department/laboratory/research group	Laboratory with 1 Associate Professor, 1 Researcher, 1 post doc and 2 PhD students. Equipped for filed work/boat available/microscopy facilities/ aquaria
Candidate fellows must send their candidature with a short description of their profile to the following email address	mariachiara.chiantore@unige.it

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Supervisor Expression of Interest

3.

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MSCA domain	Environmental and Geosciences (ENV)
Research focus area	Relationships between macroclimate, microclimate and functional traits in poikilohydric organisms: a tool to study the effects of climate change. Poikilohydric organisms, such as lichens and bryophytes, are extremely sensitive to climatic factors since the hydration level of the thalli, on which the metabolic activity depends, is essentially affected by external conditions. This has a reflection, for example, on the large-scale distribution patterns of many species as a direct response to macro-climatic factors. However, there is a growing awareness that the distribution of these organisms also reflects the effect of microclimatic factors that determine conditions of heterogeneity on a small spatial scale. In this perspective, the study of the heterogeneity at the level of the micro-climate landscape is fundamental to understand how poikilohydric organisms respond to climatic variations and to understand the impacts of climate change on this essential, but often overlooked, component of biodiversity. A central aspect of the research will concern the role of some functional

	traits in modifying the response of these organisms to different spatial scales. This will allow exploring the mechanisms underlying the observed distributional patterns, allowing the development of more reliable predicting models to interpret the responses to climate change. The combined use of elevation and biogeographical gradients will constitute the operational framework for developing and pursuing research objectives.
Department	Department of Pharmacy (DIFAR)
Short description of the department/laboratory/research group	The research topics of the laboratory include the investigation of the anthropogenic impact on lichens according to a wide set of biological, physical and chemical parameters from the microscopic to the community level. The Department of Pharmacy (DIFAR) can provide all the infrastructure needed for performing analysis on from the cellular to the community level, including e.g. bright field, polarizing light and fluorescence microscopy, Scanning Electron microscopy with EDX probe, HPLC, Photosynthesis Efficiency Analyzer. The laboratory is also equipped with instruments for trace element analysis: Microwave digestion system, Atomic Fluorescence Spectrometer; Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES); Atomic Absorption Spectrometer.
Candidate fellows must send their candidature with a short description of their profile to the following email address	giordani@difar.unige.it