Marie Skłodowska Curie Action –Postdoctoral Fellowship 2024
(MSCA-PF-2024)

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Department /Institute /Centre	**Name**	HIDROBIOLOGÍA Research Group / Escuela Técnica Superior de Ingeniería de Montes, Forestal y del Medio Natural
	Address	José Antonio Novais, 10, 28040,
	Province	Madrid
Research Area		Environment and Geoscience (ENV) Life Sciences (LIF)
Brief description of the Centre/Research Group		HIDROBIOLOGÍA Research Group aims at understanding the structural and functional dynamics of river ecosystems. This should be the basis for multiple fluvial restoration initiatives and monitoring tasks that are needed to improve the ecological status of rivers taking in mind anthropic pressures and the Global Change context. HIDROBIOLOGÍA is currently developing the following research lines: (1) Hydromorphology and vegetation (2) Connectivity attributes in basins and river networks (3) Theory of ecological systems and its application to the study of their structure and functioning (4) Redundant information models: Application of Bayesian methods to obtain population parameters (5) Climate change and effect of global warming on the ecology of aquatic systems (6) Impact of hydroelectric production on river ecosystems (7) Ecological restoration of aquatic systems HIDROBIOLOGÍA is a consolidated research group with 12 active researchers, According to Web of Science it has published 212 articles, cited 2922 times generating a h-index of 27. HIDROBIOLOGÍA counts on two research facilities: (1) aquaculture plant: a set of pools and channels to provide controlled aquatic habitat conditions, and (2) Greenchannel: a mesocosmos that reproduces water depth and velocity changes under controled hydrological conditions. https://www.upm.es/observatorio/vi/index.jsp?pageac=estructuras/grupo.jsp&idGrupo=241&h=1

Project description	When all the organisms of a given animal community are binned toghether in logarithmic body size classes and the number persize bin is represented in a logarithmic axis a linear pattern emerges. This pattern is usually known as size spectrum. The elevation and slope of the line can be deduced proprtional to the community carrying capacity an its trophic efficiency, respectively (Guiet et al., 2016).
	The slope of size spectra has been proposed as an indicator of structural and functional integrity of animal communities (Petchey and Belgrano, 2010).
	However there are evidences that this slope is an invariant (Gjoni et al., 2024). We hypothesize that it may change after a disturbance to readjust during a transient state, only to become stabilized at the same value but at the expense of a change in the elevation. To test this hypothesis we propose a doble experiment: (1) checking field observations on the size spectra at recently disturbed sites; and (2) testing the changes of a community in a mesocosmos after controlled disturbances. The reserach will include the observational and experimental design, measures and reports of the obtained results. It will lead to research articles, communications at scientific meetings, and fellowships at partner groups and institutions.
	Gjoni, V., Pomeranz, J.P.F., Junker, J.R., Wesner, J.S., 2024. Size spectra in freshwater streams are consistent across temperature and resource supply (preprint). Ecology. Guiet, J., Poggiale, J.-C., Maury, O., 2016. Modelling the community size-spectrum: recent developments and new directions. Ecological Modelling 337, 4–14. Petchey, O.L., Belgrano, A., 2010. Body-size distributions and size-spectra: universal indicators of ecological status? Biol. Lett. 6, 434–437.
Applications: documents to be submitted and deadlines	Candidates should submit a detailed CV, a letter of motivation and two letters of references, before **April 30th 2024**.