



## Alejandro Tejedor

His research activity started with his PhD thesis at the University of Zaragoza and has continued at institutions such as the University of Minnesota, the University of California, the Max Planck Institute and Sorbonne Abu Dhabi University. In 2023, he joined the BIFI Intitute with the María Zambrano fellowship, seeking to apply and enrich his interdisciplinary expertise in physics and Earth processes. His research focuses on studying spatial and temporal patterns to infer underlying physical processes, combining physics, network theory, complex systems and data science.



## Researcher profile

He is an R3 researcher, specialising in the analysis of terrestrial patterns from remote sensing data and the study of connectivity networks in natural systems. He uses a multidisciplinary approach, combining graph theory, machine learning and numerical modelling to study how biogeophysical processes affect the landscape. His research focuses on river deltas, erosional landscapes and the resilience of environmental systems to disturbances.

## Importance of his research

His research addresses critical environmental problems through data analysis and complex systems-based conceptual frameworks to improve the prediction and management of natural systems. He focuses on river deltas and erosional landscapes, key to understanding how they respond to environmental and anthropogenic changes, such as climate change. It also analyses the connectivity of ecosystems to assess their resilience and manage water resources. Its approaches have both scientific and policy applications, helping in decision-making in the face of ecological and climatic challenges.

