

CIMO is...

■ ■ ■ a Portuguese research centre focused on Mediterranean mountain issues CIMO applies an holistic and interdisciplinary research approach, integrating natural, social and engineering sciences to promote sustainable development based on endogenous resources and the creation of value chains, turning Mediterranean mountains specificities into central elements of science and increasing the regional impact of R&I activities. CIMO's mission is linked to local challenges as driving forces for scientific and technological development and their transformation into global opportunities to increase socio-economic resilience and to contribute to the UN SDGs in Mediterranean mountain systems.

■ ■ ■ currently comprised of 132 members, of which 77 are PhD integrated.

■ ■ ■ currently involved in international projects (FP7, Horizon 2020, Portugal2020, POCTEP, ERA-Net, Interreg, EuropeAid), funded networks (EUREKA, CYTED, COST), and nationally funded R&D projects under the PTDC (FCT), PAN 2017-2019, NORTE 2020, PORTUGAL 2020, PDR 2020 and MAR 2020 Programmes.

■ ■ ■ actively involved in international mountain networks such as the Iberian Mountain Research Network (Directors), LuMont, the Lusophony Mountain Research Network (Leaders), Mountain Partnership-UN (Steering Committee), EUROMONTANA (Board of Directors), Tunisian Mountain Network (Promoters), Network for European Mountain Research (members), and collaborated with the Mountain Research Initiative (MRI) and the Int. Center of Climate Res. and Applications in Portuguese Speaking Countries and Africa (CIICLAA). CIMO researchers are leaders in several international organizations (e.g. IUFRO, SILVAMED-FAO, APIMONDIA, ISHS, Int. Honey Commission).



**Centro de Investigação
de Montanha**



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CIMO is structured in two research groups

- **Socio-Ecological Systems**
- **Sustainable processes and products**

Socio-Ecological Systems

The group deals with managed ecological systems (e.g. agriculture, forests, pastureland, rangeland) from a coupled socio-economic and ecological perspective where ecological and human components, and their interactions, are addressed as interdisciplinary research goals. It covers two main topics:

Socio-Ecological Resilience: is focused on interactions of drivers of change with ecological processes, functions and services, and aims to understand and forecast effects of change on ecosystem services and the interactions of biodiversity and management, and to promote multifunctionality, adaptation, and resilience in the management of mountain systems.

Sustainable Agriculture and Innovative Agro-food Chains: is focused on practices to increase efficiency, resilience and supply of ecosystem services in agriculture under scenarios of climate and socioeconomic change, and on the evaluation of quality, authenticity and traceability, and development of methods for nutritional, chemical, biochemical and microbiological analyses of food products, food safety control, agro-industry business, and access to markets of quality and innovative mountain products.



Sustainable processes and products

The group works on the development of processes and products with regional, national and international impact, seeking functionality, performance, and economic, environmental and social sustainability.

Research is focused on innovative processes (extraction of natural bioactive ingredients, process design and scale-up, refining, separation and reaction) and products (natural ingredients, individual compounds, formulations, materials for industry and environmental protection) through engineering and natural sciences integration, complying with consumers' growing expectations and safety issues. It covers two main topics:

Processes and Products Engineering:

covers engineering and scale-up of chemical processes and methodologies (e.g. extraction, adsorption, purification, reaction, microencapsulation, process simulation, thermodynamic modelling and sensor technology) and their application in high added-value innovative products (e.g. novel formulations, polymeric, functional or hybrid materials, adsorbents and catalysts).

Natural and bio-based ingredients:

is focused on the valorization of natural and bio-based ingredients through new and existing supply chains, their characterization, chemistry and technology of natural products, medicinal chemistry, and design and branding of novel natural-derived and bio-based products for the food, cosmetic, and pharmaceutical sectors (e.g. bio-based preservatives, colouring agents, flavours and bioactives).

