

Littoral ENvironnement et Sociétés (LIENSs)

The LIENSs laboratory is an Interdisciplinary Joint Research Unit (UMRi 7266 La Rochelle Université CNRS). The laboratory puts interdisciplinarity at the service of sustainable development issues related to the coastline.

It integrates the skills of many disciplines that range from environmental sciences to human sciences through chemistry and biotechnology.

Its research focuses in particular on the functioning of the coastal system, its evolution in a context of global change and increasing urbanization of the coasts, its use and its sustainable exploitation.



Director — **Olivier de Viron**

Permanent research staff — **89**

Phd student — **56**

Permanent technical assistant staff — **29**

Staff on research project — **34**

— **6 teams**

- ▶ Approach by Geography: Islands, Littoral areas and Environment (AGILE)
- ▶ Biodiversity and Functioning of Coastal Ecosystems (BIOFEEL)
- ▶ Biotechnologies and Chemistry applied to Bioresources for Health (BCBS)
- ▶ Marine animals' responses to environmental variability (AMARE)
- ▶ Physical Dynamics of the Littoral zone (DPL)
- ▶ SpacEs, Societies, TerritoRies of Ancient and New shores (ESTRAN)



— Societal challenges

Coastal ecosystem

Study of the functioning and evolution of the different natural habitats composing the coastal ecosystem, by integrating a set of physical, biological and human factors.

Coastal erosion

Study of the evolution of erosion and submersion hazards but also of the vulnerability of

coastal populations at national and international scale.

Climate change

Study of the physiology and behavior of fauna and flora and their adaptation to the disturbances of their environment due to global changes.

Attractive space

Study of the interactions between the different categories of inhabitants of the coast and of their consequences on the natural balance of the area.

Sustainable management

Long-term monitoring of societies impacts and global warming on the coastal area

and the marine environment to acquire the necessary knowledge to derive good practices for sustainable coastal management.

Living species bioprospection

Study of the roles and functions of marine organisms. Understanding how they work enhances biomass through biotechnology and bioprospecting to produce healthy molecules (antibiotics, anti-diabetics, anti-tumors, etc.).

Historical perspectives

Study of ancient periods at the scale of the coastal area in order to better understand its current functioning and shed light on its future evolution.

Disciplines — **Biology . Ecology . Ecophysiology . Law
Ecotoxicology . Earth sciences . Geophysics . Geography
History chemistry and biotechnology . Political sciences**



– Research Network

Member of the national alliance for research for the environment, (AllEnvi) the LIENSs is also strongly involved in national and regional networks such as the French Agency of the Biodiversity, the Aquitaine Observatory of the Sciences of the Universe (CNRS INSU, IRSTEA, University of Bordeaux, La Rochelle Université and the Ministry of higher Education and Research (MESRI). Le LIENSs is also involved in many coastal or marine observation networks such as SOMLIT or RESOMAR. It is today a key player in the observation and understanding of the coastal system.



– Expertise Achievements

Currently the laboratory is involved in 7 European programs, 18 ANR (National Research Agency) projects and 70 research conventions or programs. The LIENSs collaborates in particular with the LittoSIM program which aims to develop and implement a participative simulation platform in the form of serious role-based games intended for the local public. The project aims at modeling effects of coastal flooding on urban areas of the island and at enabling the transfer of scientific findings to risk managers, as well as awareness of those concerned by the risk of coastal flooding.



Its interdisciplinary approach is currently embodied by the PAMPAS project which aims to respond to current societal challenges of adaptation to climate change and transmission, applied on a local scale, but transposable to the wider scale of coastal wetlands.

The laboratory is also associated with the start-up from La Rochelle Valbiotis around a patent that should lead to the marketing of food supplements intended to prevent cardio-metabolic diseases.

Training

MASTER ENVIRONMENTAL SCIENCES

- ▶ course Geosciences and coastal geophysics
- ▶ course Environmental management and coastal ecology
- ▶ course Geography applied to coastal management
- ▶ course Environmental management

MASTER BIOTECHNOLOGY

- ▶ course Biochemistry
- ▶ course Biotechnological engineering and agri-food management
- ▶ course Applied Blue Biotechnology, master 2 only (teaching in English and open to alternating training with SMEs)

– Partnerships Collaborations



LIENSs works with local authorities, including the New Aquitaine Region, the La Rochelle Urban Community, the Community of municipalities of Oléron island and the national institutions including the French coastal conservatory (Conservatoire du Littoral). The research is conducted in partnership with French and foreign laboratories and scientific organizations. LIENSs has developed partnerships with a dozen foreign scientific institutions. The laboratory also collaborates with several French companies (Total, Léa Nature, Creocéan, Valbiotis, Innov'ia, Seprosys, Flores de Terroirs ...).



CONTACT

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