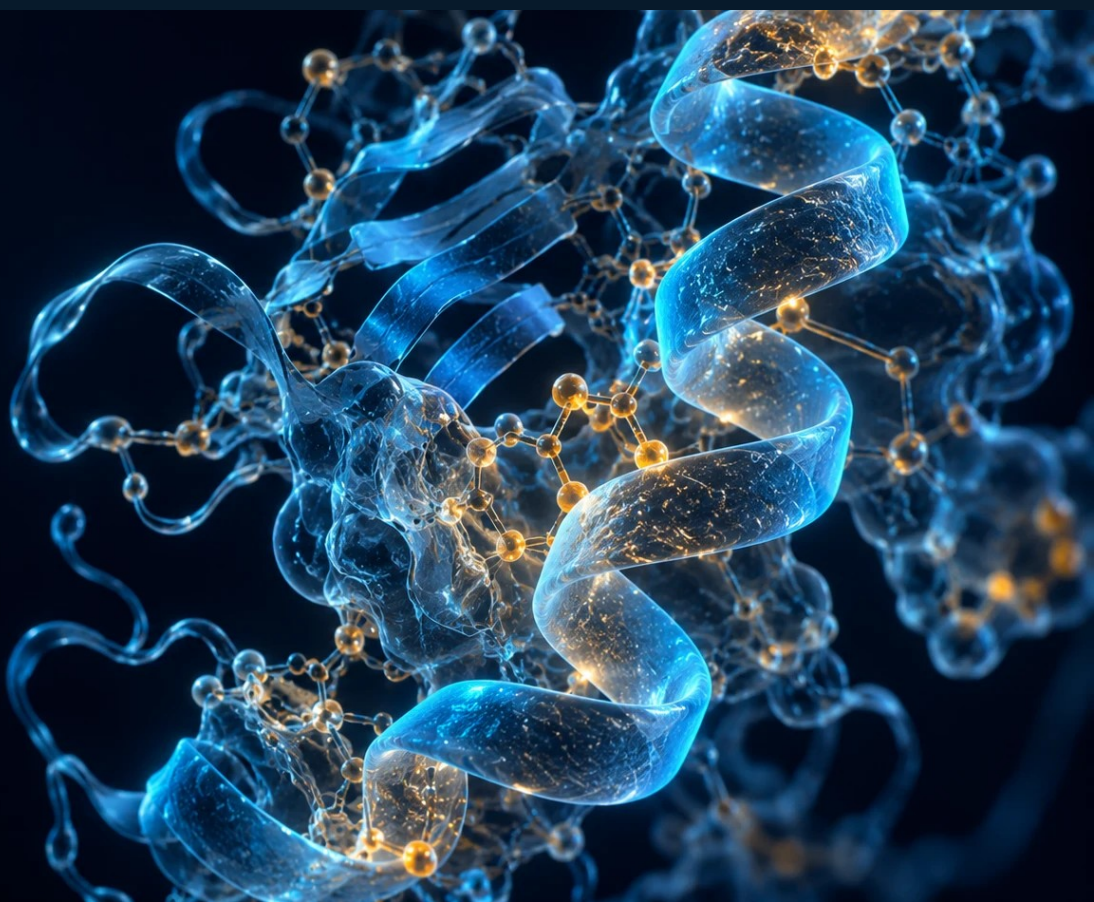


Faculty of Medicine / Mostaganem, Algeria

Laboratory presentation dossier

Biochemistry, Molecular Biology and Environmental
Toxicology Research Laboratory



Abdelhamid Ibn Badis University - Mostaganem

Identity and mission

A laboratory connecting disciplines at the interface of environment and health.

Useful research and learning through research

The laboratory's mission is to produce useful scientific knowledge and develop human capabilities through research. Bringing together biology, medicine, pharmacy and computer science enables a question to be considered at connected levels, from molecular mechanisms to their place within living and environmental systems.

Scientific positioning

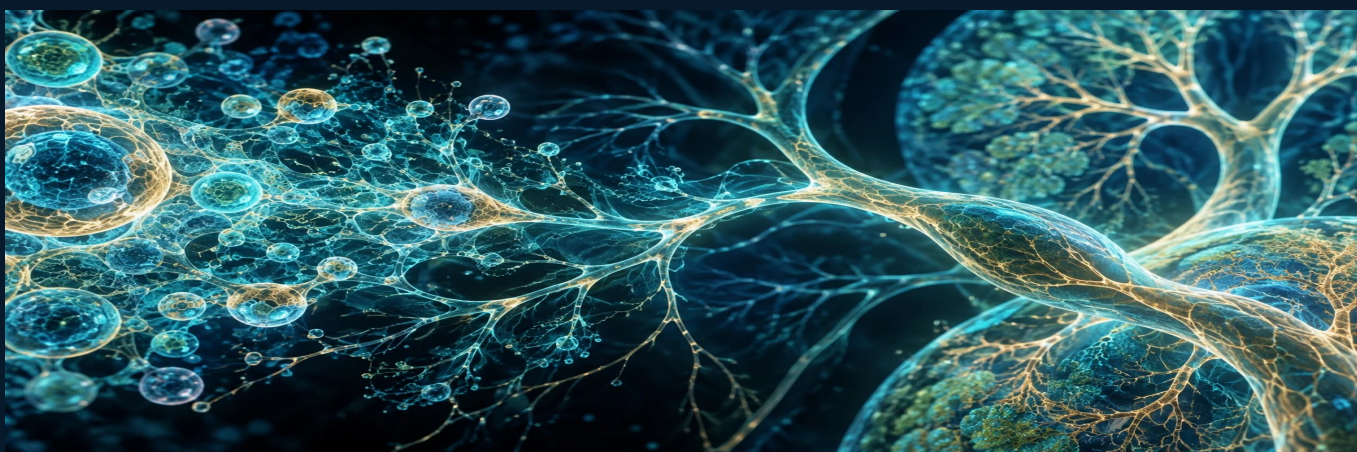
The laboratory's distinctive approach connects molecular, microbiological and environmental expertise with bioinformatics and omics. This complementarity places the environment-health interface at the centre of its interests: food security, ecosystem services, and human and animal health.

Training through research

Research provides a setting for developing scientific reasoning, reading evidence and connecting disciplines. This orientation follows the laboratory's stated mission to train through research and develop human potential.

One Health

The laboratory's experimental approach is based on the One Health concept, bringing disciplines together to study the connections between living organisms and their environments.



HUMAN HEALTH

Emerging diseases and hospital-acquired infections are among the environmental and health questions outlined by the laboratory, alongside nutrition and therapeutic research.

ANIMAL HEALTH

The laboratory's interests include animal health and environmentally linked parasitic diseases, including bee nosema, within a perspective connecting health and ecosystem services.

ENVIRONMENTAL HEALTH

Microorganisms are studied as essential actors in aquatic and terrestrial ecosystems and in risk analysis related to the introduction of contaminants.

Five areas of expertise. One connected vision.

01 **Biochemistry, molecular biology and cell signalling**

This research area focuses on biochemistry, molecular biology and cell signalling within the laboratory's integrated approach.

02 **Emerging pathologies, medicinal plants and therapeutic research**

This research area brings together emerging pathologies, medicinal plants and therapeutic research around health-related questions.

03 **Bioactive substances, nutrition and health**

The team's research themes centre on bioactive substances, nutrition and health.

Five areas of expertise. One connected vision.

04 **Agroecological production systems and environmental toxicology**

This area connects agroecological production systems with environmental toxicology, within the laboratory's food-security and ecosystem interests.

Its themes intersect with environmental microbiology, ecosystem services and the health of living organisms. Modelling can help organise the relationships under investigation.

05 **Bioinformatics, modelling and simulation**

This area brings together bioinformatics, modelling and simulation, complementing the laboratory's experimental disciplines.

This area offers a connection between disciplines. Models and simulations support understanding and hypothesis exploration; their results need evaluation against data and the limitations of the model.

Approaches that connect around a scientific question.

Applying the concepts and tools of omics approaches to scientific questions connected to national research programmes.

Molecular approaches

Combining biochemistry and molecular biology to address the laboratory's scientific questions.

Environmental microbiology

Studying microorganisms in ecosystems and risks related to contaminants and parasitic diseases.

Omics and bioinformatics

Bringing together experimental tools, bioinformatics, modelling and simulation.

An illustrative view of complementary approaches

National priorities. International horizons.

Citizen health

National Citizen Health Research Programme.

Food security

National Food Security Research Programme.

International research

International research programme projects.

Our expertise spans biology, medicine, pharmacy and computer science.

Scientific exchange. New perspectives.

For enquiries about the laboratory's research areas or training through research, contact the scientific correspondent.

SCIENTIFIC CONTACT

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scholar.google.com/citations?user=9ISU70sAAAAJ

A new presentation edition based on laboratory information available in September 2026.