



MoRAS

ORGANIZATION

The infrastructure of the MoRAS center is represented by the Recirculating Aquaculture System pilot plant, at the level of which applicative research is carried out, the research center being organized into 14 laboratories equipped with high-performance equipment for leading exploratory research, acquired through the POSCCE project no. 622/2014 "Romanian Center for Modelling Recirculating Aquaculture Systems", as follows:

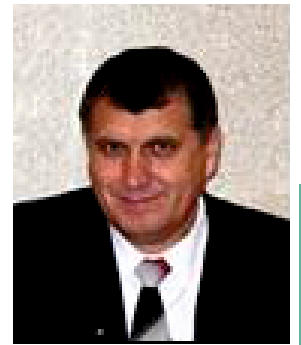
- Extrusion plant
- Chromatography and microscopy
- Cell culture
- Histology
- Nutrition
- Water quality control
- Numerical modelling in aquaculture and molecular biology
- Bioeconomic modelling in aquaculture
- Physiology
- Material resistance
- Mechanical and tribological tests
- Polymeric materials research
- Gastronomy

ABOUT

The "Romanian Center for Modelling Recirculating Aquaculture Systems - MoRAS" scientific research center of the "Dunărea de Jos" University of Galați (UDJG) is an academic research unit, without legal personality, organized within the Faculty of Food Science and Engineering. The center was created to bring together the professional experience and efforts of the scientific community of the university, to carry out the research, development and innovation activity in the field of aquaculture.

The MoRAS Center was established as a result of the implementation of the POSCCE project 622/ 11.03.2014 according to Senate Decision no. 136 of 24th July, 2015 (ROF approved by Senate Decision no. 54/27 April 2017).

THE TEAM



Prof. dr. eng. Victor CRISTEA - Responsible

Scientific Coordination Council:

Assoc.prof.dr.eng. Lorena DEDIU
Prof.dr.eng. Petru ALEXE
Prof.dr.eng. Camelia VIZIREANU
Prof.dr. Nicoleta BĂRBUȚĂ-MIȘU

CONSULTANCY, EXPERTISE AND SERVICES

The MoRAS Center offers a diversified range of consultancy, expertise and technological transfer services for the socio-economic environment, as follows:

1. Laboratory analyses

- Water quality analysis and biochemical analysis (meat, feed)
- Microbiological analysis (water and fish)
- Assessment of the fish health by analyzing the blood metabolic profile (hemoleucogram, biochemical tests, oxidative stress determination)
- Analysis of the health physiological state of the fish (parasitological analysis)

2. Professional training services in the field of aquaculture

3. Consultancy services in the field of aquaculture

4. Research, development and innovation services

5. Services for drawing up studies / documentation in the field of aquaculture

6. Research and experimental development services in the field of aquaculture

OBJECTIVES

The main mission of the MoRAS center is to promote the fundamental, efficient and applied research, in the field of recirculating aquaculture systems, by stimulating any sort of collaboration, the exchange of ideas and experience accumulated in this field by the academic community, within the University "Dunărea de Jos" in Galați.

MoRAS is open to scientific collaboration between all relevant units in the country and abroad on the basis of bilateral agreements or within national and/or international programs.

MoRAS research center aims, depending on the provided opportunities, to support the implementation, through technological transfer, of recirculating aquaculture systems and intensive aquaculture technologies, developed within it, at the level of economic and industrial units.

ROMANIAN CENTER FOR MODELLING RECIRCULATING AQUACULTURE SYSTEMS

EXPERTISE AREAS

As a research entity of excellence, the Romanian Center for Modelling Recirculating Aquaculture Systems represents a unique multidisciplinary research structure in Romania, being competitive in terms of research, development and innovation in the field of aquaculture, both nationally and in the European scientific area.

The main component of this research center is the Recirculating Aquaculture Pilot System (RAS). This system through its design, functionality, equipping and process automation is a high-performance recirculating system, which includes the most advanced technical solutions existing at the present time internationally. This pilot plant represents a RAS model that can be adapted for different technologies, production capacities, operating conditions for the purpose of its implementation and utilization on an industrial scale. Also, the pilot recirculating system is designed as a modular system so that it can meet all the scientific research and exploration demands.

In order to meet the requirements of the beneficiaries of these systems and to be able to respond competitively, in real time, to the scientific and technical progress, in the context of technological globalization, a series of advanced, exploratory and transdisciplinary researches are undertaken in the following research directions:

1. Design and operational management improvement the of recirculating aquaculture systems for their implementation in the production sector;
2. Growth technologies optimization under high intensity conditions specific to recirculating aquaculture systems;
3. Health and comfort ensurance of the crop biomass;
4. Recirculating systems biosecurity ensurance;
5. Aquaculture's environmental impact reduction;
6. Higher recovery rate, nutritional evaluation and quality control of the fish raised in recirculating aquaculture systems;
7. Processes modelling in the superintensive aquaculture.

RELEVANT EQUIPMENT

1. Recirculating Aquaculture System pilot plant (RAS)
2. Ultra High Performance Liquid Chromatography System (UHPLC)
3. Laser Scanning Confocal Scanning Microscope
4. Atomic Absorption Spectrometer
5. Continuous Flow Wastewater AutoAnalyzer
6. Fourier-Transform Infrared Spectrometer
7. Nuclear Magnetic Resonance Spectrometer
8. Tribometer
9. High Performance Computing System
10. Biaxial machine for static and dynamic tests

