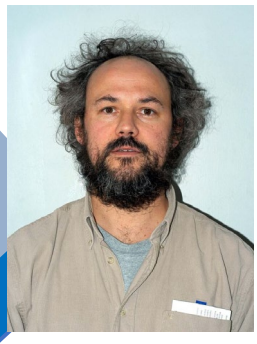
CENAKVA

South Bohemian Research Center of Aquaculture and Biodiversity of Hydrocenoses

Invitation to Scientific Insights Seminars



Lecture by prof. FONTAINE Pascal

Laboratory Animal and Agroecosystems (L2A), Team Diversification in Inland Aquaculture, University of Lorraine - INRAe, Faculty of Sciences, France

Visiting Professor of CENAKVA (RP3)

Date & Place

17th September 2025

14:30 pm – 15:00 pm

FFPW USB

Zátiší 728, Vodňany

large meeting room

Light refreshments will be provided.

Title

„Effect of the biodiversity increases in RAS on microbial communities“

Lecture by prof. Ákos Horváth

Hungarian University of Agriculture and Life Sciences, Department of Aquaculture

Visiting Professor of CENAKVA (RP1)

Date & Place

18th September 2025

8:00 am – 8:30 am

FFPW USB

Zátiší 728, Vodňany

large meeting room

Light refreshments will be provided.

Title

„Practice-oriented research in reproductive aquaculture: reality or wishful thinking“

Contact person:
Jaroslava Dubová
dubova@frov.jcu.cz

Fakulta rybářství a ochrany vod
Faculty of Fisheries and Protection of Waters

Jihočeská univerzita v Českých Budějovicích
University of South Bohemia in České Budějovice

HR EXCELLENCE IN RESEARCH

prof. FONTAINE Pascal

17th September 2025
14:30 pm – 15:00 pm

Title and abstract of the lecture

„Effect of the biodiversity increases in RAS on microbial communities“

Currently, European freshwater aquaculture faces many major challenges, particularly in relation to climate change, which has a significant impact on water availability and quality. This has increased interest in Recirculated Aquaculture Systems (RAS), but economic constraints (energy costs, investment, etc.) are hampering this development (reduced profitability). Within the framework of an agroecological approach, one solution lies in mobilizing animal and plant biodiversity to optimize the various resources available in these production systems (water, food, volume, biofilm, etc.). However, the development of mixed farming of animals and plants in the same system (water circuit) raises questions about the impact of increased biodiversity on the microbial communities of these systems, which play a major role in their functioning (biofiltration, pathology, product quality, etc.). My presentation will provide an overview of our research unit's recent work on the study of interactions between animal and plant communities produced in RAS and their microbial communities.

CURRICULUM VITAE

Laboratory Animal and Agroecosystems (L2A), Team Diversification in Inland Aquaculture, University of Lorraine - INRAe, Faculty of Sciences, France

Research:

My research focuses on the development of a sustainable aquaculture by its diversification and the domestication of new species (fish). More particularly, using percid fish as models, I have developed new protocols (i) to induce out-of-season spawning by the management of temperature and photoperiod, and (ii) to improve larval rearing. More recently, I have promoted a generic approach for fish domestication and developed studies to understand the effects of the domestication process using zebrafish Danio rerio as species model. More recently, since 2020, I have promoted a collaboration with microbiologists in order to study the effects of the animal and plant biodiversity on microbial communities in aquaculture systems (RAS, IMTA).

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South Bohemian Research Center of Aquaculture and Biodiversity of Hydrocenoses

prof. Ákos Horváth

18th September 2025

8:00 am – 8:30 am

Title and abstract of the lecture

„Practice-oriented research in reproductive aquaculture: reality or wishful thinking “

Aquaculture research is generally regarded as an applied form of research, distinguished from basic science. Researchers in various aquaculture disciplines, particularly in reproductive technologies, are often encouraged to demonstrate their research as practice-oriented and with tangible outcomes. My hypothesis posits that the majority of research conducted in fish reproduction is fundamental in nature, and only a limited number of techniques are applied in commercial aquaculture. To substantiate this hypothesis, I present several examples drawn from past and present scientific trends within this field. Several techniques have been developed in the domains of chromosome set manipulation, gamete and germ cell cryopreservation, and transplantation, yet these remain largely unexplored in aquaculture practice. Even those techniques that have been partially applied do so on a localized and isolated scale. Furthermore, significant emphasis is placed on elucidating the underlying processes governing reproductive processes in fish, which constitute fundamental research. Nevertheless, these scientific contributions are valuable and should be regarded as such. The concept of practice-oriented research will undoubtedly continue to be prevalent, but it should be subject to critical examination and evaluation.

CURRICULUM VITAE

Department of Aquaculture, Institute of Aquaculture and Environmental Safety, Hungarian University of Agriculture and Life Sciences, 2100 Gödöllő, Páter Károly utca 1., Hungary

Research:

My primary area of research is the reproductive biology of fish. Earlier, I mostly dealt with the development of various fish sperm cryopreservation methods which resulted in successful protocols in cyprinids, acipenseriform fish, percids as well as salmonids. Later, my scientific interest turned towards the cryopreservation and transplantation of germline stem cells (primarily spermatogonia and oogonia). Successful transplantation of spermatogonia has been accomplished by our team in international collaboration in salmonids and cyprinids. In addition, my research expertise includes population genetics of various salmonid species as well as cytogenetics in fish and shellfish species.

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