

# AdriAquaNet

Enhancing Innovation and Sustainability in Adriatic Aquaculture

WP 4.4 Trainings for veterinarians and SMEs

WP4– Training nr. 3, report, November, 19, 2021

## Introduction

The **third training course** entitled **“AdriAquaNet Contributions to The Health Management of Fish Farms and The Improvement of Sustainability in Mariculture”** was held in presence on November 19, 2021 at Barco Teatro in Padua (Italy) and simultaneously in remote on the platform ZOOM <https://bit.ly/3cgxKoA>. It was organized by PP4 in collaboration with LP offices and external service LETTERAB. It was open to breeders, researchers, technicians and consultants in the mariculture sector. 53 participants, out of 61 registered and of which 18 followed the training online.

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35 attendees got the AAN certificate of attendance.

The course had two sessions: The morning **»SESSION 1: The Contributions of the AdriAquaNet Project on the Health Management of Fish Farms«** united 4 technical presentations related to the work and topics of WP4 and the afternoon **»SESSION2: The Contributions of the AdriAquaNet project on Improving Sustainability in Mariculture«** was referred to the topics of WP3 and WP5 activities united in 7 presentations.

All three training cycles (WP3, WP4 and WP5) were gathered in one-day training course in order to facilitate the organization and the knowledge transfer to the attendees that were interested in different topics.

M. Galeotti (LP) introduced and moderated the morning session, whereas A. Fabris (API- Associazione Piscicoltori Italiani – external collaborator PP2) moderated the second session and also concluded the second session with a presentation called **»New Routes of Sustainable Aquaculture«**.

PP4 researchers were involved as participants and speakers in the morning first session: Amedeo Manfrin, Istituto Zooprofilattico Sperimentale delle Venezie – IZSve (PP4) presented a lesson entitled **»Development of a Practical Method for Assessing the Welfare of Farmed Fish«**. LP members Valentina Pacorig and Donatella Volpatti, University of Udine presented **»The Use of Natural Substances as a Therapy in Aquaculture«**. PP1 - Croatian Veterinary Institute researchers Dražen Oraić, Ivana Giovanna Zupičić, Željko Pavlinec, Snježana Zrnčić, did a presentation entitled **»The Use of Natural Substances as a Therapy in Aquaculture, Testing the Efficacy of Autologous Vaccines against Vibrio harveyi and Tenacibaculum maritimum in sea bass«** that was held by

Snježana Zrnčić in presence. Paola Sist and Sabina Passamonti from University of Trieste (PP2) did a presentation entitled »Application Possibilities of the Analysis of Bile Pigments in Fish« that was presented in presence by Paola Sist.

**The following deliverables were produced and put in SIU:**

- 1. Invitation in EN and IT**
- 2. Agenda in EN and IT**
- 3. Attendance lists of participants in presence and on zoom**
- 4. Minutes of discussion with attendees**
- 5. Certificates of attendance**
- 6. 4 Presentations of relators in EN and IT**
- 7. Presentation of lessons and training materials**
- 8. Questionnaire session 1 and session 2 in EN and IT**

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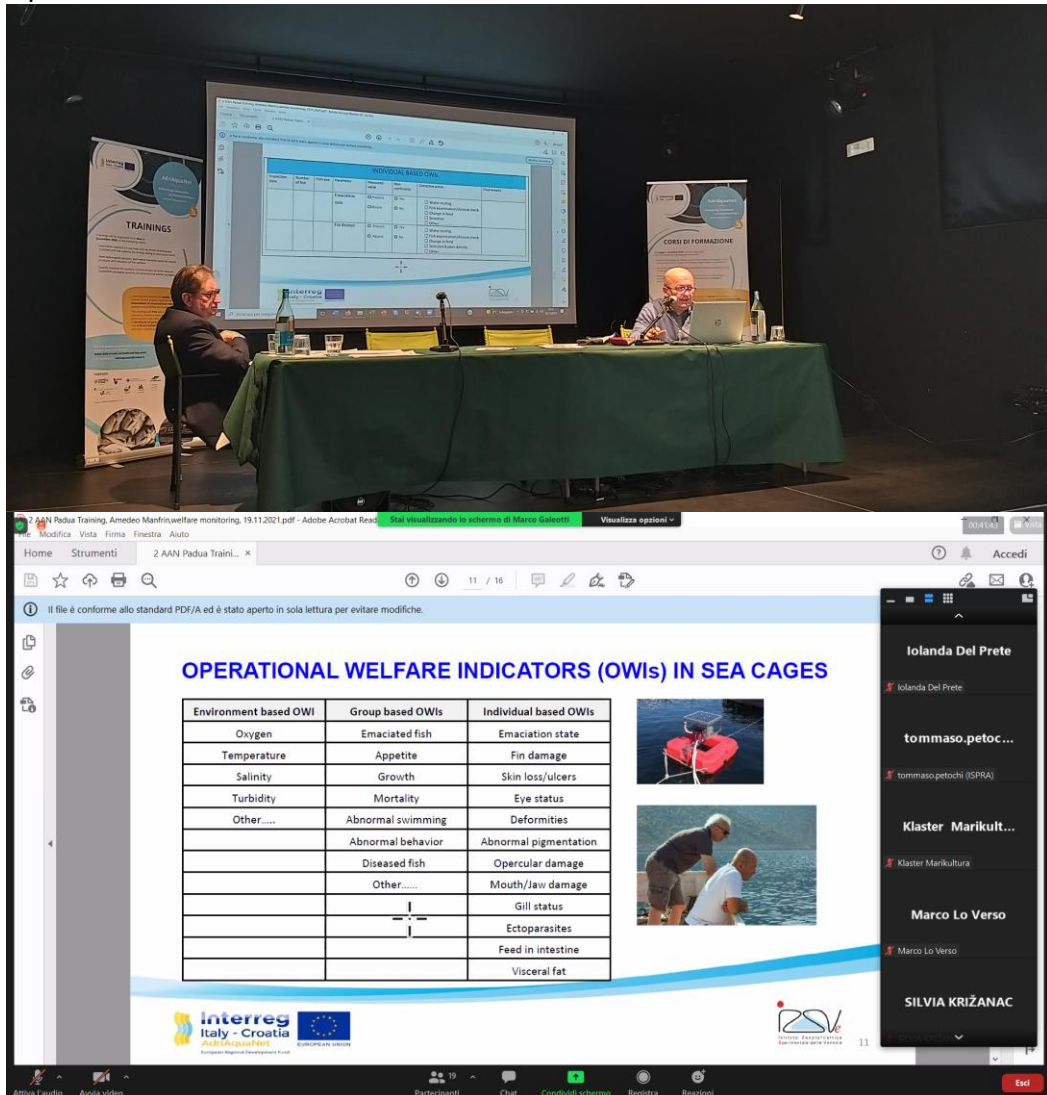




## Topics

After the session a questionnaire was distributed to the attendees. The following presentations regarding WP3 were discussed among the participants and all relators present debated about:

1. Development of a Practical Method for Assessing the Welfare of Farmed Fish,
  - a. Operational Welfare Indicators



**OPERATIONAL WELFARE INDICATORS (OWIs) IN SEA CAGES**

Environment based OWI	Group based OWIs	Individual based OWIs
Oxygen	Emaciated fish	Emaciation state
Temperature	Appetite	Fin damage
Salinity	Growth	Skin loss/ulcers
Turbidity	Mortality	Eye status
Other....	Abnormal swimming	Deformities
	Abnormal behavior	Abnormal pigmentation
	Diseased fish	Opercular damage
	Other.....	Mouth/Jaw damage
		Gill status
		Ectoparasites
		Feed in intestine
		Visceral fat

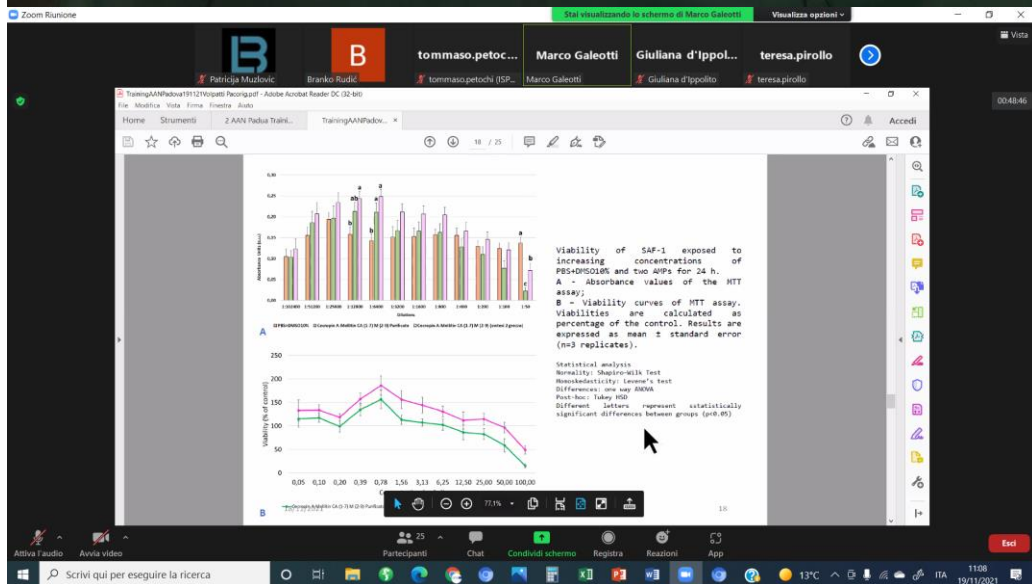
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## 2. The Use of Natural Substances as a Therapy in Aquaculture

- a. requirement that must be met by a natural substance, in order to be a therapeutic/immunostimulant candidate in aquaculture

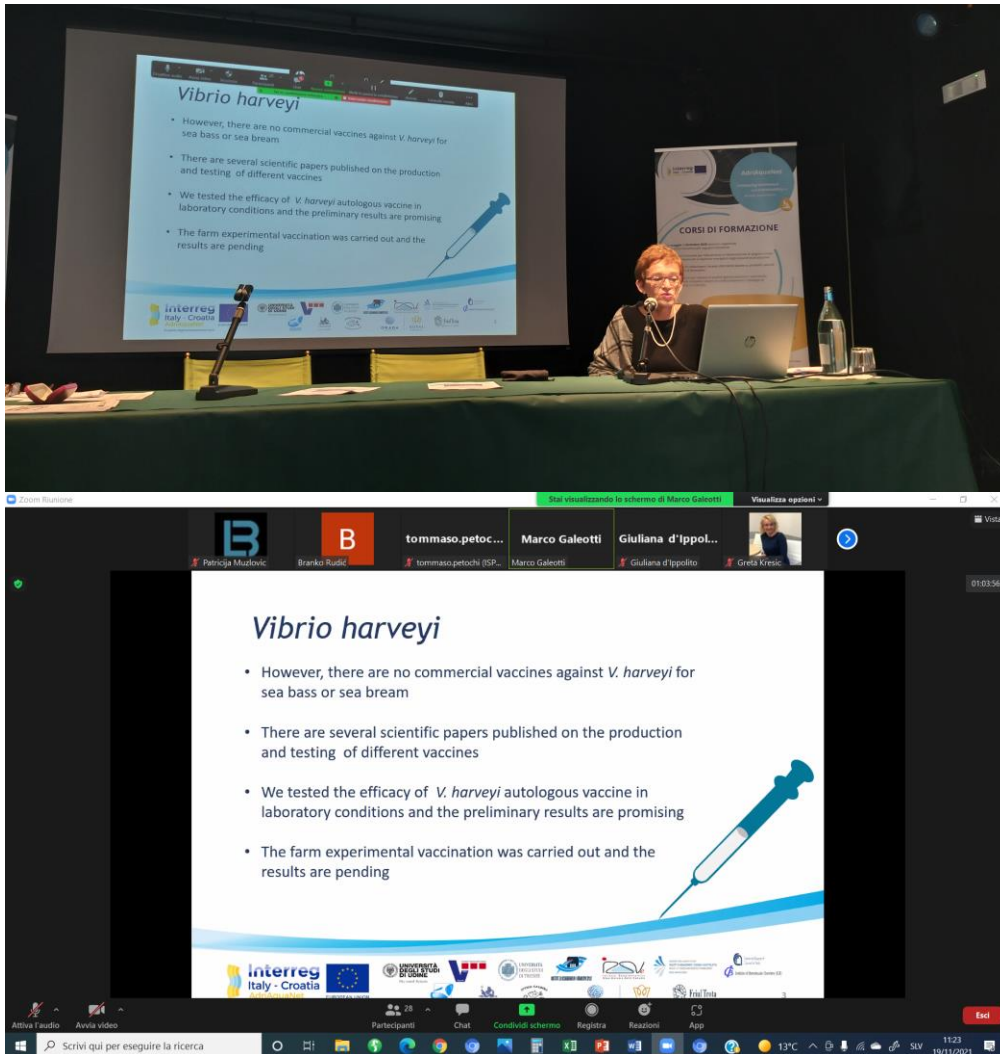


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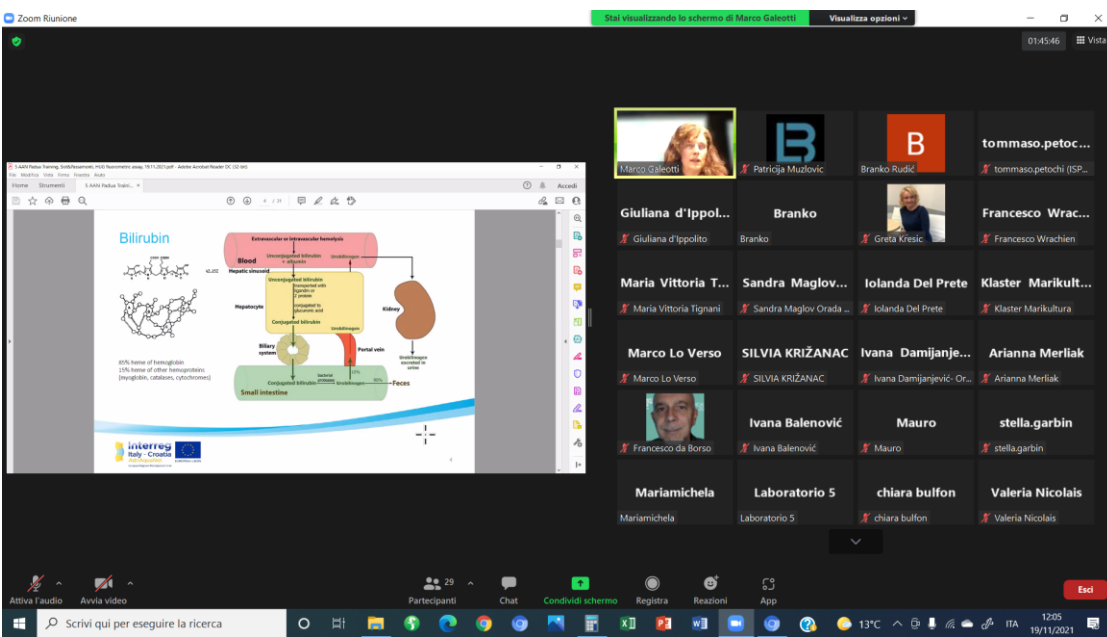
## 3. Testing the Efficacy of Autologous Vaccines against *Vibrio harveyi* and *Tenacibaculum maritimum* in sea bass

- a. How are the Autologous Vaccines manufactured?



4. Application Possibilities of the Analysis of Bile Pigments in Fish  
 a. What does the HUG biofluorometric method analyse?

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## Conclusions and Next Steps

The following training will be organized in presence in Croatia or online probably in 2022, according to the sanitary situation.



