



COST Action no. FA1205

Assessing and improving the quality of aquatic animal gametes to enhance aquatic resources – The need to harmonize and standardize evolving methodologies, and improve transfer from academia to industry (AQUAGAMETE)

2012 | 2016

Objectives

- A. To review the current state of knowledge related to different aspects of research on aquatic species gametes.
- B. To coordinate activities related to the main research goals by meetings of the senior scientist dedicated to intercalibration and standardization of techniques of analysis and to identify gaps to avoid overlapping research funded by EU and/or national sources and to explore ways of transfer to industry, reaching a consensus on protocols and guidelines (by using internationally defined terminology, units of measurement and format of reporting) that permit the use of results in relational studies.
- C. To train students and young scientist (by STSMs and training courses).
- D. To continue the series of biennial International Workshops on Biology of Fish Gametes as a forum for the exchange of information between researchers directly involved in the Action, as well as other groups interested in this scientific area.
- E. Maximize the dissemination of results at different levels and using different channels. Our intention is arriving from the street level to the elaboration of recommendations for national or international agency calls (EU, bilateral cooperations).

Main Achievements

- A. AQUAGAMETE COST Action involves a scientific community of 355 persons from 22 COST countries and 4 IPC, showing a well balanced representation of both sexes. Young female researchers are 44,5% of total women. Early stage researchers (<35) are well represented, with a 42,5% of the total.
- B. A Training School was held in Cádiz (Spain), entitled “Techniques for fish germline cryobanking”, providing the 20 students knowledge of several techniques related to gamete cryopreservation and their application, pots-thaw quality evaluation and germline biotechnology.
- C. A total of 30 STSMs will be funded during the first grant period (15 months), distributed in three calls, being 17 of them already performed.
- D. The 4th International Workshop on the Biology of Fish Gametes (<https://sites.google.com/site/fishgametes2013/>), was celebrated in Albufeira (Portugal) in September 2013 with a total of 118 participants from 24 countries, being 24 students granted by the Action.

Food and Agriculture (FA)

Participating countries

AT, BE, BG, CZ, DE, DK, EL, ES, FI, FR, HR, HU, IL, IT, MK, NO, PL, PT, RS, SI, TR, UK

Contact details

Chair of the Action

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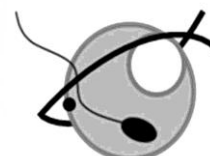
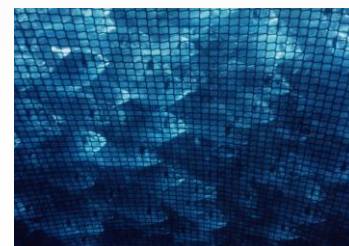
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AQUAGAMETE



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Working Group activities

Working Group 1 (Techniques for evaluation of gametes quality)

- Dr. Julien Bobe, leader of WG1, is organizing a Training School entitled "How to investigate gamete quality in fish and shell fish using molecular tools?". It will take place in June 2014 in Rennes (France) and will cover aspects such as gamete quality and domestication, control of gamete quality by environmental factors, gene expression in building egg quality throughout gametogenesis and effect of xenobiotics. It is being planned for 15-20 students.
- Another Training School is being organized within the activities of WG1, by Dr. Jacky Cosson. Entitled "Optical Microscopy and Image Analysis in Sperm Motility", will aim to set up the different tools to be used in these studies. It is planned for taking place in Vodnany (Czech Republic), in September 2014, and will count with the attendance of 20-25 students.

Working Group 2 (Gametes storage and preservation)

- The Training School "Techniques for fish germline cryobanking" was organized by Dr. Elsa Cabrita, leader of WG 2 in Cadiz (Spain), in May 2013. It was attended by 20 students from 10 countries, who learnt the use of several techniques related to gamete cryopreservation and their application, pots-thaw quality evaluation and germline biotechnology. According to the survey, students found this Training School very interesting and successful.

Working Group 3 (Basic and applied research on gametes biochemistry and physiology, including omics)

- This WG is coordinating the publication of different review papers, with the following topics: a) Primordial germ cells (PGCs); b) Epigenetic modification of gametes; c) Genome quality in gametes; d) Mechanisms of sperm motility; e) Identification and characterization of gamete proteins and maternal mRNAs; f) Water and ion control in gametes; g) Oxidative stress to gametes and antioxidative protection; h) Role of maternally-inherited factors in embryonic developmental success/potential.

Working Group 4 (Organization of training courses, coordination meetings, and two next International Workshops on Biology of Fish Gametes)

- The WG4 organized the 4th edition of the International Workshop on the Biology of Fish Gametes (<https://sites.google.com/site/fishgametes2013/>), a series of workshops which stated the basis for the implementation of AQUAGAMETE COST Action. This last edition, organized by Dr. Sonia Martínez Páramo and her group in CCMAR, took place in Albufeira (Portugal) in September 2013 with a total of 118 participants from 24 countries, being 24 students granted by the Action. A selection of abstracts presented in this workshop will be published in a special edition in the Journal of Applied Ichthyology.
- The next edition (5th) will be held in Ancona (Italy) in 2015, organized by Prof. Oliana Carnevali and her group in the Polytechnic University of Marche.

Industry participation

Aquaculture:

Valenciana de Acuicultura, S.A.

Eel and tilapia producers
Puzol, Valencia (Spain)
rodolfo.barrera@valaqua.com
www.valaqua.com

Syndicat des Sélectionneurs Aquacoles et Avicoles Français (SYSAAF)

French Union of Poultry and Aquaculture
Breeders
Station SCRIBBE, Rennes (France)
Pierrick.haffray@rennes.inra.fr
<http://www.sysaaf.fr/>

Biotechnology:

Biobide, S.L.

Drug screening using zebrafish as model
Bilbao (Spain)
info@biobide.es
<http://www.biobide.es/>

Tecnobios Procreazione

Human reproduction research
Bologna (Italy)
procreazione@tecnobiosprocreazione.it
<http://www.tecnobiosprocreazione.it/>

IMV Technologies

Materials for reproduction biotechnologies
and cryopreservation
L'Aigle (France)
contact@imv-technologies.com
www.imv-technologies.com

Fisheries / Ecology:

FARONIKA d.o.o.

Conservation work on rare autochthonous
salmonid species
Tolmin (Slovenia)
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<http://www.idoo.si/en/boniteta/FARONIKA-TOLMIN>



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