



Silvia Zanuy

dedication to science, education and outreach

Lifetime Achievement Award



Biographical sketch

- 1969.- Bachelor degree in Biological Sciences, University of Barcelona
- 1975.- PhD Degree in Biological Sciences, University of Barcelona
- 1969-1972.- PhD Fellowship: Institute of Fisheries Research (IIP-CSIC), Barcelona
- 1975-1976.- Post-doctoral training: Department of Pharmacology, University of Hawaii at Manoa and Oceanic Institute, Hawaii, USA



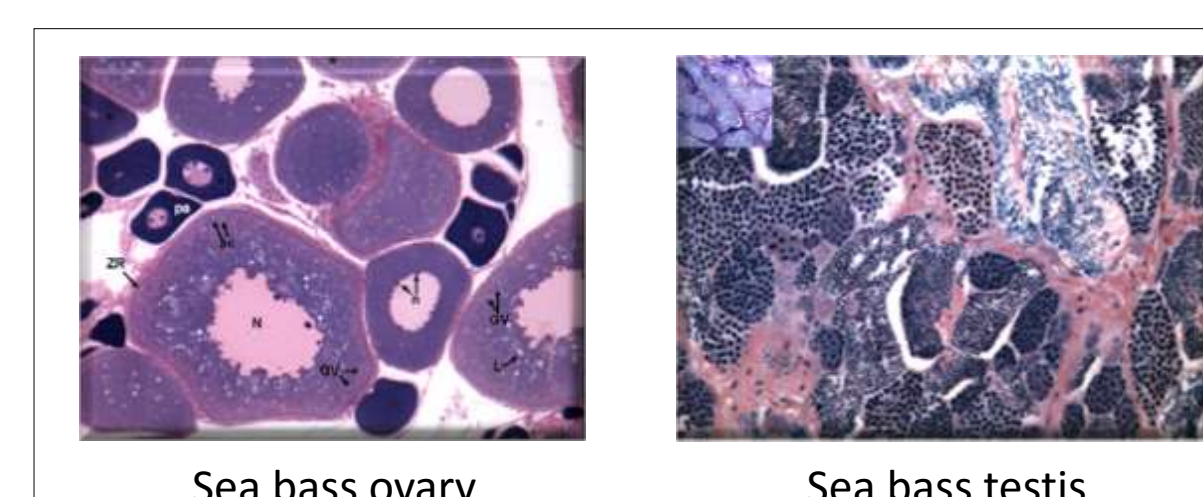
Prof. Zanuy joined the Instituto de Acuicultura de Torre la Sal (IATS) in 1978 as a Research Scientist where she has been working for most of her career.

There, with Prof. Manuel Carrillo, pioneered a line of research on the physiology of European sea bass, *Dicentrarchus labrax*, in particular reproduction, nutrition and metabolism, and their interaction.

The main scientific goals have been to generate relevant basic knowledge on reproductive endocrinology, especially the control of puberty, gonad maturation and spawning having in mind applications to aquaculture.



- 1972-1978.- Tenure Scientist: Inst. Fisheries Research (IIP-CSIC), Barcelona
- 1978-1987.- Tenure Scientist: Institute of Aquaculture "Torre de la Sal" (IATS-CSIC), Castellón
- 1983-2016.- Head of Research Team of Fish Reproductive Physiology
- 1983-1987.- Deputy Director of the Institute of Aquaculture "Torre de la Sal" (IATS)
- 1987-2002.- Research Scientist: Institute of Aquaculture "Torre de la Sal" (IATS-CSIC), Castellón
- 1994-2012.- Head of the Department of Fish Physiology and Biotechnology
- 2002-2014.- Research Professor: Institute of Aquaculture "Torre de la Sal" (IATS-CSIC), Castellón



Main Scientific Achievements

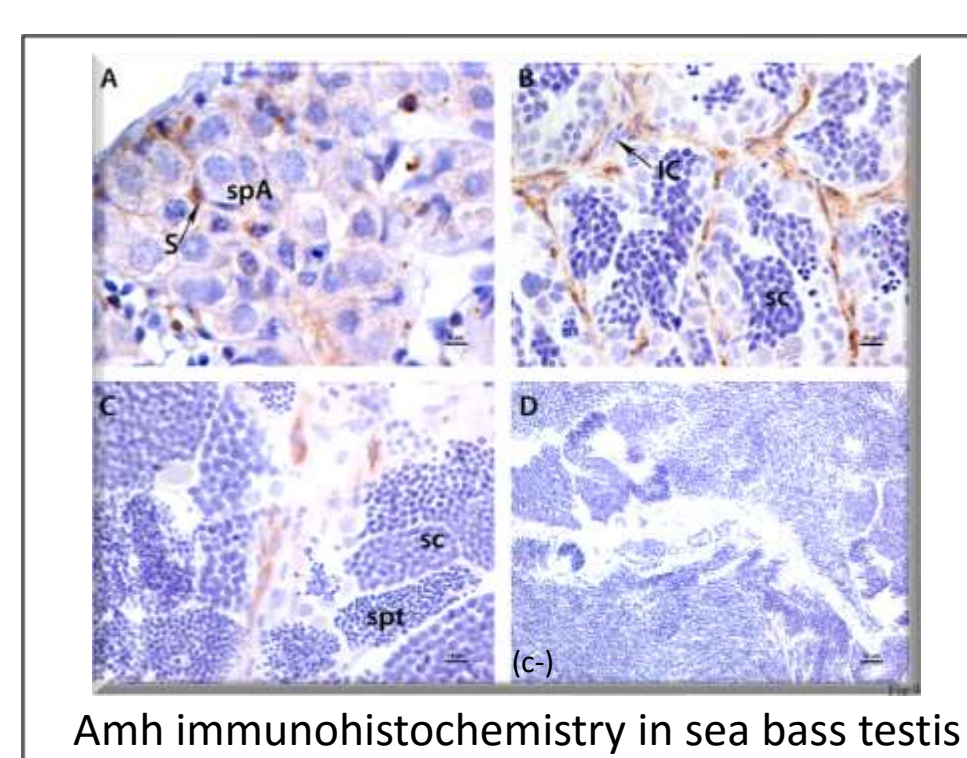
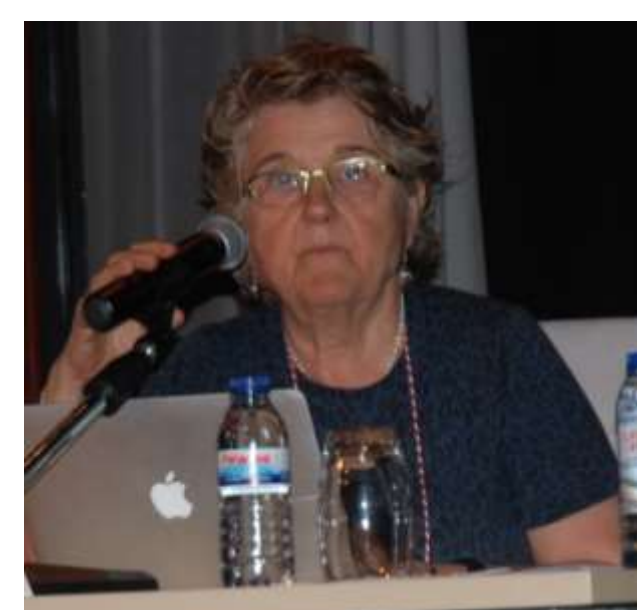
Among other achievements, Prof. Zanuy made significant contributions to sea bass biology studying the mechanisms underlying precocious puberty in males, integrating environmental and physiological signals at the level of the brain and the neuroendocrine regulation of fish reproductive processes. A special interest, and for which she made important contributions, has been the study of the influence of light/photoperiod on different phases of sea bass reproduction. The systematic approach of her group to the study of applied problems through basic biology, can be said, helped to promote the European sea bass to the status of aquaculture model species. The acquisition of this basic knowledge has come together with the development of fundamental tools for analysis of reproductive hormones and for endocrine functional studies. Her societal service oriented contributions to aquaculture are translated into the development of environmental protocols and hormonal therapies used by industry for the control of fish reproduction.

Prof. Zanuy is author of 300 publications in scientific journals, books and conference proceedings. Her studies have been disseminated by active participation in scientific meetings with more than thirty invited lectures in national and international conferences. She was one of the founding members of the Iberian Association for Comparative Endocrinology of which was President from 2005 to 2010. She has also participated in the organization of several international conferences and was Chairman of the 5th International Symposium of Fish Endocrinology held in Castellón (Spain) in 2004.

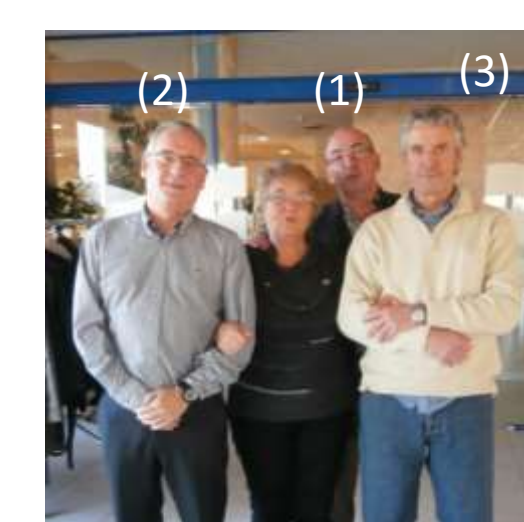


PhD Students

- (1) Jaume Pérez-Sanchez, CSIC Research Professor at IATS, 1988
- (2) Roque Serrano, Full Professor at Universitat Jaume I. Castellón, 1990
- (3) Evaristo Mañanos, CSIC Tenured Scientist at IATS, 1993
- (4) Mercedes Blázquez, CSIC Tenured Scientist at ICM, 1995
- (5) Rosa Isabel Ochoa Baez, Associate Professor at National Polytechnic Institute. Mexico, 1998
- (6) Juan Francisco Asturiano, Associate Professor at Universitat Politècnica. Valencia, 1999
- (7) José Miguel Cerdà-Reverter, CSIC Tenured Scientist at IATS, 1999
- (8) Alicia Felip, CSIC Tenured Scientist at IATS, 2000
- (9) Asunción Fornies, 2009
- (10) Gregorio Molés, Post-doc, 2011
- (11) María José Mazón, Post-doc at Imperial College London, 2012
- (12) Felipe Espigares, Marie Curie post-doc at Instituto Gulbenkian de Ciência. Lisbon, 2014



Amh immunohistochemistry in sea bass testis



Service highlights

- 1989-2013.- Member of the Editorial Committee of Scientia Marina
- 1989.- Co-Chairman of the Symposium on Applications of Comparative Endocrinology to Fish Culture, a Satellite Symposium of the XI International Symposium on Comparative Endocrinology
- 2000.- Member of the Scientific Committee of the 20th Conference of European Comparative Endocrinologists
- 2000-2001.- Member of the Expert Advisory Group (EAG) in "Sustainable Agriculture, Fisheries and Forestry"; V FP of the U E
- 2001-2003.- Member of the Natural Resources Area Committee of the CSIC
- 2001-2003.- Member of the Steering Committee of the "Instituto Español de Oceanografía"
- 2003-2006.- Member of the Team of Coordination of the National Evaluation and Foresight Agency (ANEP)
- 2004.- Organizer and Chairman of the 5th International Symposium on Fish Endocrinology (ISRFE)
- 2005-2010.- President of the "Asociación Ibérica de Endocrinología Comparada"
- 2014.- Member of the Scientific Committee of the 10th International Symposium on Reproductive Physiology of Fish (ISRPF)

Main cited publications

Reviews

- Control of puberty in farmed fish
- Broodstock management and hormonal manipulations of fish reproduction

Experimental articles

- Brief treatment with an aromatase inhibitor during sex-differentiation causes chromosomally female salmon to develop as normal, functional males
- Seasonal-changes in plasma-levels of gonadal-steroids of sea bass, *Dicentrarchus labrax*
- Development of broodstock diets for the European Sea Bass (*Dicentrarchus labrax*) with special emphasis on the importance of n-3 and n-6 highly unsaturated fatty acid to reproductive performance
- Daily rhythms of insulin and glucose-levels in the plasma of sea bass *Dicentrarchus labrax* after experimental feeding
- Evidence for two distinct KiSS genes in non-placental vertebrates that encode kisspeptins with different gonadotropin-releasing activities in fish and mammals
- Differential expression of three different prepro-GnRH (gonadotrophin-releasing hormone) messengers in the brain of the European sea bass (*Dicentrarchus labrax*)
- Immunohistochemical localization of three different prepro-GnRHs in the brain and pituitary of the European sea bass (*Dicentrarchus labrax*) using antibodies to the corresponding GnRH-Associated peptides