

Name: Katerina Kousoulaki

Present position Researcher in Fish Nutrition and Raw material processing
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Degrees

2008 PhD, University of Athens – Department of Biology – Oceanography, National Center of Marine Research – Selonda Aquaculture S.A., Subject: Nutritional needs of red Pandora (*Pagellus erythrinus*) in protein and energy.

1998 Master of Science (MSc) in Aquaculture and Fisheries Management, Agricultural University of Wageningen, The Netherlands, Pattimura University of Aquaculture and Fisheries, Ambon, Indonesia.

1996 Bachelors degree in Biology, National Kapodistrian University of Athens, Grade A. Thesis: Ecological and systematic study of the flora in the Nicolaos Plastiras lake rivers, Karditsa, Greece: Use of diatom communities as water quality bio-indicators.

Experience

2007-present Nofima Ingrediens. Researcher in Fish Nutrition and Raw material processing

1999-2007 Selonda Aquaculture S.A., Navarhou Nikodimou 30, Plaka, Athens, Greece. Position in the company: Head of Nutrition and R&D department.

1999 Hellenic centre of Marine Research, Iraklion, Crete, Greece: Voluntary work. Subject: Analysis of Morphometry, Allometry, and Malformations in Sea Bass (*Dicentrarchus labrax*).

1995-1996 OikoTechnics Institute, Koukaki, Athens, Greece. Scientific partner. Subject: Light dosimeter operation and data processing; diatom and makroalgae identification and community analysis; marine field investigations on solar UV-B effects on periphyton.

Present research activities and fields of interest

2007-2009 Stickwater fractionation; marine water solubles; sustainable feeds for salmon; Hydroxyproline; Taurine; Zebrafish diet formulation; effects of marine water solubles on gene expression in cod and zebrafish; Bonemeal hydrolysis; mineralization in cod: P and Ca effects.

1999-2007 AQUAMAX: sustainable feeds for gilthead sea bream; Development of an innovative electronic coagulation filter for the water treatment of on land water recirculation fish production systems; Utilisation of animal grade legumes as alternative protein sources for sea bass and sea bream culture; Common Pandora nutrition and farming; Feasibility study for the implementation of the Closed Water Recirculation System Technology in the on land on growing of sea bass and sea bream in Greece. Environmental study and waste water management with the creation of a wetland; Creation of a managerial software programme for fish

production incorporating a growth model; Comparative study of body growth of cultured and wild White sea bream (*Diplodus sargus*) and study of the environmental effects; Genetic selection of sea bass (*Dicentrarchus labrax*) and sea bream (*Sparus aurata*); Study of the pathology of the infection of the marine fish *Sparus aurata* and *Puntazzo puntazzo* and application of experimental medical treatments against *Mixosporidium*; Development of a vaccine against marine fish pasteurellosis; Enhancement of on-grown Sea bream performance and coloration with special feed rich in pigments - Sea Bream requirements in DP/DE; Enhanced growth and delay of maturation in Sea bream and Sea bass with prolonged constant photoperiod in the cages with the use of underwater AquaBeam Pisces lamps - On-growing of bream with high vegetable protein diets - On growing feeding experiments with *Puntazzo puntazzo* for increased immune resistance of the species against parasites - Experimental on-growing diets for rearing *Dentex dentex* - Study of the biology genetics and growth of different grades of Sea bass and Sea bream fry - Pre-sale enhancement of Sea bream coloration with special fish feed pigments - Research on the larval and on-growing stages of *Octopus vulgaris* - Enhancement of Broodstock performance with special feeds rich in Arachidonic acid – Selection of bream showing increased growth rates when fed on fish feeds rich in proteins of plant origin.

- 1999 Analysis of Morphometry, Allometry, and Malformations in Sea Bass (*Dicentrarchus labrax*).
- 1998-1999 In vitro method for protein digestibility evaluation in larval feeds for African catfish *Clarias gariepinus*; Pelagic fish population dynamics of the bagan fisheries in Ambon, Indonesia.
- 1995-1996 Light dosimeter operation and data processing; diatom and makroalgae identification and community analysis; marine field investigations on solar UV-B effects on periphyton.

Memberships in academic and professional committees/networks

- 2005-2007 Member of the National group of consultants of the Federation of Greek Mariculturists: responsible for fish nutritional aspects.

Selected publications

Reports

Peer-reviewed journals

- 2010 Snorre Bakke, Ann-Elise Olderbakk Jordal, Pedro Gómez-Requeni, Tiziano Verri, Katerina Kousoulaki, Anders Aksnes and Ivar Rønnestad, 2010. Dietary protein hydrolysates and free amino acids affect the spatial expression of peptide 2 transporter PepT1 in the digestive tract of Atlantic cod (*Gadus morhua*) *Comparative Biochemistry and Physiology, accepted manuscript.*
- 2009 Kousoulaki, K., Olsen, H.J., Langmyhr, E. Albrektsen, S., Campbell, P., Aksnes, A., 2009. Effect of fish meal water soluble fraction (stickwater) inclusion in very low fish meal diets for atlantic salmon (*Salmo salar* L.) performance and body composition and fillet quality. *Aquaculture* 289, 74-83.
- 2007 Kousoulaki, K., Miliou, E., Apostolopoulou, M., Alexis, M.N., 2007. Effect of feeding intensity and feed composition on nutrient digestibility and production performance of common pandora (*Pagellus erythrinus*) in sea cages. *Aquaculture* 272, 514-527.

- 2006 Tsantilas, H., Galatos, A.D., Athanassopoulou, F., Prassinou, N.N., Kousoulaki, K., 2006. Efficacy of 2-phenoxyethanol as an anaesthetic for two size classes of white sea bream, *Diplodus sargus* L., and sharp snout sea bream, *Diplodus puntazzo* C. *Aquaculture* 253, 64– 70.
- 2000 Garcia-Ortega, A. Koussoulaki, A., Boer, H. and Verreth, J., 2000. *In vitro* protein digestibility of *Artemia* decapsulated cysts and nauplii, and of microbound diets for larval fish. *Aquaculture Research*, 2000, 31, pp. 475-477.
- 1997 Santas, R., Koussoulaki, K. Häder, D.P., 1997. "Assessing biological UV-B effects, natural fluctuation of solar radiation should be taken into account". *Plant Ecology*, 128, pp. 93-97.

Selected presentations

Conference papers

- 2009 Kousoulaki, K., Fjelland, P.G., Aksnes, A., Albrektsen, S., 2009. Tissue mineralisation and growth of atlantic cod (*Gadus morhua*) fed soluble P and Ca salts, and hydroxyproline in the diet. Frisk Fisk Konferansen. Bergen, 20-21 Janary 2009.
- 2009 Gómez-Requeni, P., M. De Vareilles, K. Kousoulaki, A-E. Olderbakk Jordal, L.E.C. Conceição, I. Rønnestad. 2009. Whole body proteome response to a dietary lysine imbalance in zebrafish *Danio rerio*. World Aquaculture Society, Veracruz, Mexico, May 25-29, 2009.
- 2008 Kousoulaki, Langmyhr, E., Albrektsen, S., Aksnes, A., 2008. Performance enhancing dietary effect of water soluble marine N-compounds fed to Atlantic salmon. Biomarine Industry Seminar. Bergen 2-3 December 2008.
- 2008 Kousoulaki, K., Aksnes, A., Albrektsen, S., 2008. Growth and tissue mineralization of Atlantic cod (*Gadus morhua*) fed soluble P and Ca salts, and hydroxyproline in the diet. Poster presentation in the 13th International Symposium on Fish Nutrition and Feeding, Fish and Crustacean Nutrition: Present Knowledge and Future Perspective, June 1 - 5, 2008, Florianopolis, Brazil.
- 2007 Kousoulaki, K., 2007. Raw materials and feed optimization for farming of seabass and bream. Fiskeriforskning Biomarint industriseminar. Bergen 4-5 December 2007.
- 2006 Nikolopoulou, D., Fountoulaki, E., Henry, M., Koussoulaki, K., Moutou, K.A. and Alexis, M.N., 2006. Study of digestion an digestive enzyme activity in European sea bass (*Dicentrarchus labrax*) fed diets containing different types of legumes. 12th International Symposium on Fish Nutrition and Feeding. 28 May – 1st June, 2006, Biarritz, France.
- 2006 Fountoulaki, E., Alexis, M.N., Koussoulaki, K., Nikolopoulou, D., Karakostas, I., Nengas, I., Vatsos, I., Henry, M., Grigorakis, K. and Kotzamanis, Y. Performance parameters of sea bass (*Dicentrarchus labrax*) fed diets containing different legumes over a long rearing period. Poster presentation in the 12th International Symposium on Fish Nutrition and Feeding. 28 May – 1st June, 2006, Biarritz, France.
- 2004 Koussoulaki, K., Alexis, M., 2004. Effect of feeding intensity and feed composition on the growth characteristics and body composition of cultured red Pandora (*Pagellus erythrinus*) during the warm period of the Mediterranean Sea area. 11th International Symposium on Nutrition and Feeding in Fish. 2-7 May, Phuket, Thailand, 2004.
- 1998 García-Ortega, A., Verreth, J., Koussoulaki, K., Boer, H. and Sorgeloos, P., 1998. Determination of in vitro protein digestibility in larval fish diets. VIII International Symposium on Nutrition and Feeding of Fish. Las Palmas de Gran Canaria, Spain, 1-4 June, 1998. p. 220.

Popular science articles

2009 Aquafeed: Slik kan fiskemel I fôr resuseres

2006 Fish farming international: Pandora: The next big Greek bream?