

Dr Nikolaos G. Vlahos

Research & Teaching Fellow

School of Agricultural Sciences

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Expertise: Nutrition, Nutritional physiology, Aquaponics (Fresh & Brackish water), Biology and Reproduction of Ornamental fish, Aquaculture of Ornamental fish and Aquarium industry, Aquascaping and Design of Aquariums (fresh water, salt water and reef aquarium), Plant aquarium, Physiology of Aquatic Animals in Aquaponics systems, Design and aquascaping of Aquaponic systems.

Education

- Post Doc Researcher in Nutrition and physiology of aquatic animals in aquaponic systems, University of Thessaly, Department of Ichthyology and Aquatic Environment, Greece.
- PhD in Nutritional physiology of Ornamental fish, University of Thessaly, Department of Ichthyology and Aquatic Environment, Greece. PhD Thesis: Biology and Nutritional physiology of Ornamental fish in aquariums.
- M.Sc. in Environment Sciences, University of Patras, Department of Biology, Greece, Master's Thesis: Estimation of the environmental status of the lagoon of Messolonghi through the determination of heavy metals and natural radioactive nuclides in sediments
- Ichthyologist, Technological Educational Institution of Messolonghi, Department of Aquaculture and Fisheries

Professional Experience

- 1992-1993: Ichthyologist in Fresh Water Aquaculture
- 1993-2012: Lecturer: Fresh Water Aquaculture, Ornamental aquaculture, Aquarium. Department of Aquaculture and fisheries management, Technological Educational Institution (TEI) of Messolonghi
- 2004-2015: Technician, Aquaculture laboratory, Aquaria Unit, Department of fisheries & Aquaculture, Technological Educational Institution of Western Greece
- 2015-now: Research and Teaching Fellow, Department of Animal Production Fisheries & Aquaculture, University of Patras
- 2015-now: Lecturer in undergraduates' courses: Aquatic animal physiology-Endocrinology, Nutritional Physiology, Aquarium-Aquaponics, Department of Fisheries and Aquaculture, University of Patras
- 2019-now: Lecturer in the postgraduate course; Sustainability of aquaculture and fisheries
- 2017-now: Visiting Lecturer in undergraduates' courses: Aquatic animal physiology-Endocrinology, Nutritional Physiology, Aquarium-Aquaponics, Department of Ichthyology and Aquatic Environment, University of Thessaly
- 2018-now: Visiting Lecturer in postgraduate courses at the Mediterranean Aquaculture, postgraduate programme, Department of Ichthyology and Aquatic Environment, University of Thessaly

Scientific & Research interests

- Aquatic animal nutritional physiology in aquaponic systems
- Aquaponics design and aquascape (Freshwater, Brackish water)
- Nutrition and feeding of ornamental fish
- Feeding formulation-Aqua feed technology
- Biology and reproduction of fish for ornamental aquaculture

- Aquaria and small recirculation water systems construction and running
- Small-scale tropical fish production
- Aquascaping and aquarium design

Publications in International peer reviewed Journals

- Tsoumalakou, E.; Mente, E.; Kormas, K.A.; Katsoulas, N.; **Vlahos, N.**; Kapsis, P.; Levizou, E.(2022). Precise Monitoring of Lettuce Functional Responses to Minimal Nutrient Supplementation Identifies Aquaponic System’s Nutrient Limitations and Their Time-Course. *Agriculture* 2022, 12, 1278. <https://doi.org/10.3390/agriculture12081278>.
- Karapanagiotidis, I. T., Kyritsi, S., Dretaki- Stamou, G., Psafakis, P., Neofytou, M. C., Mente, E., **Vlahos, N.**, & Karalazos, V. (2021). The effect of different dietary protein levels on growth performance and nutrient utilization of snarpsnout sea bream (*Diplodus puntazzo*). *Aquaculture Research*, 00, 1-9. <https://doi.org/10.1111/are.15719>.
- Stathopoulou P, Berillis P, **Vlahos N**, Nikouli E, Kormas KA, Levizou E, Katsoulas N, Mente E. (2021). Freshwater adapted sea bass *Dicentrarchus labrax* feeding frequency impact in a lettuce *Lactuca sativa* aquaponics system. *PeerJ* 9:e11522 DOI 10.7717/peerj.11522.
- Mente, E.; Carter, C.G.; Barnes, R.S.; **Vlahos, N.**; Nengas, I. (2021). Post-prandial Amino Acid Changes in Gilthead Sea Bream. *Animals* (2021), 11, 1889. <https://doi.org/10.3390/ani11071889>.
- Vasiliki N., Zaoutsos.S., **Vlahos.,N.**, Berillis.,P. (2020). Vertebrae Morphometric Measurement and Ca/P Levels of Different Age European Seabass (*Dicentrarchus labrax*). *Fishes* 5 (4):3-10.
- Mastoraki M, **Vlahos N**, Patsea E, Chatzifotis S, Mente E, Antonopoulou E. (2020) The effect of insect meal as a feed ingredient on survival, growth, and metabolic and antioxidant response of juvenile prawn *Palaemon adspersus* (Rathke, 1837). *Aquac Res.* 2020; 00:1–12. <https://doi.org/10.1111/are.14692>.
- **Vlahos N.**, Levizou E., P. Stathopoulou ., P. Berillis., E. Antonopoulou ., V. Bekiari. N. Krigas., K. Kormas, and E. Mente (2019). An Experimental Brackish Aquaponic System Using Juvenile Gilthead Sea Bream (*Sparus aurata*) and Rock Samphire (*Crithmum maritimum*)., *Sustainability* 11(18)., DOI: 10.3390/su11184820.
- Stathopoulou P., Berillis P., Levizou E., Sakellariou-Makrantonaki M., Kormas A.K., Aggelaki A.,Kapsis P., **Vlahos N.**, and Mente E. (2018). Basil and Nile tilapia Production in a Small Scale Aquaponic System. *Journal of FisheriesSciences.com*, (E-ISSN 1307-234X) ,12(4): 001-003.
- Mente, E., Solovyev, M.M.,**Vlahos N.**, Rotllant, G., Gisbert,E. (2017). Digestive enzymes activity during initial ontogeny and after feeding diets with different protein sources in zebra cichlid *Archocentrus nigrofasciatus*. *Journal of World Aquaculture Society*,48 (5):831-848.
- **Vlahos N.**, Vasilopoulos M., Mente E., Hotos G., Katselis G. Vidalis K (2014). Yolk-sac larval development of the substrate-brooding cichlid *Archocentrus nigrocasciatus* in relation to temperature, *Integrative Zoology*; 10:497-504.
- **Vlahos, N.**, Kormas, K., Pachiadaki, G.M., Meziti, A, Hotos, G. (2013). Changes of bacterioplankton apparent species richness in two ornamental fish aquaria. *Springer Plus*, 2:66.
- Hotos, G. N. & **Vlahos, N.**, (1998). Salinity tolerance of *Mugil cephalus* and *Chelon labrosus* (Pisces: Mugilidae) fry in experimental conditions. *Aquaculture*, 167:329-338.
- Hotos, G. N. & **Vlahos, N.**, (1999). Observations on the conditioning of filter bed in hypersaline aquaria. *Aquacultural Engineering*, 19: 215-222.

International conferences

- E. Tsoumalakou, E. Mente, **N. Vlahos** and E. Levizou (2021). Aquaponics in action: physiological responses of spinach and tilapia growth. World Aquaculture Society (EAS), Aquaculture Europe 2021, EAS 2021 Virtual Congress, May 30-June 2, 2021.
- F. Papagiannidou , C.S. Chatzimavroudis, D. Lazari, N. Krigas , **N. Vlachos**, E. Mente, E. Levizou (2021). Rock samphire responds to increased salinity levels with a differentiated profile of essential oil composition when grown in an aquaponics system.

- G Tsagkatakis, S Nikolidakis, E Petra, A Kapantagakis, K Grigorakis, G Katselis, N **Vlahos**, P Tsakalides Electronic Imaging 2020 (12), 71-1-171-5
- **Vlahos N.**, Babouklis K., Frangou S., Mitsopoulos I., Kapetanios E., Manolios A., Giannoulatou K., Mardoglou E., Mente E. (2019). Design, Aquascape and Conditioning of a Brackish Aquaponics System. World Aquaculture society (EAS), Aquaculture Europe 2019, 7-10 October, Berlin Germany 2019.
- Tsoumalakou, E., E. Mente, N. Katsoulas, K.A. Kormas, P. Berillis, **N. Vlahos**, P. Kapsis, P. Stathopoulou and E. Levizou (2019). Nutrient input in a small scale Aquaponic system: Effect on Lettuce functional responses and tilapia growth. World Aquaculture society (EAS), Aquaculture Europe 2019, 7-10 October, Berlin Germany 2019.
- Mente E., K. Kousoulaki, **N. Vlahos**, A. Vasilaki, E. Antonopoulou, A. Jokumsen., P. Lembo, I. Nengas (2019). Feed and Nutrition in Organic Aquaculture. World Aquaculture society (EAS), Aquaculture Europe 2019, 7-10 October, Berlin Germany 2019.
- Alexandrou, K., Stathopoulou, P., Tsoumalakou, E., Kormas, K.A., Levizou, E., Vlahos, N., Berillis, P., Kapsis, P., Katsoulas, N and Mente, E. (2018). Optimization of Aquaponics in Greece. Poster in E.U Aquaponics HUB: Grop Science to practice 9-10 April 2018 University of Greenwich, London, UK.
- Chatziefathiou M., A. Exadactylos., **N. Vlachos**, M.M. Tsoumani (2018). Serbia on the path towards the E.U: Status and expected outcome of the Negotiations on chapter 13 “Fisheries”. 8th International conference “Water & Fish” -Conference Proceedings. Faculty of Agriculture, Belgrade, Serbia 2018: pp. 1-9.
- **Vlahos, N.**, Devetzoglou, K., Mitsopoulos, I., Mpampouklis, K., Mente, E. (2018). The effect of fish meal replacement with insect meal on growth performance and survival rate of zebrafish (*Danio rerio*). World Aquaculture society (EAS). Aqua 2018. 25-29 August, Montpellier, France.
- Mastoraki M., **Vlahos N.**, Zotou P., Chatzifotis S., Antonopoulou E., Mente E. (2018). The effect of insect meal as a feed ingredient on survival, growth and feeding behavior of juvenile prawn *Palaemon adspersus* (RATHKE, 1837), Oral Presentation in 3rd HydroMediT 2018, Volos, Greece, November 9-11, 2018.
- **Vlahos N.**, Petrou A., Patsea E., Nystas T., Panayiotou N., Vidalis K., Mente E., Antonopoulou E. (2018). The effect of fish meal replacement with insect meal on growth food consumption and survival rate of angelfish (*Pterophyllum scalare*), Oral Presentation in 3rd HydroMediT 2018, Volos, Greece, November 9-11, 2018.
- Stathopoulou P., Berillis P., Levizou E., Sakellariou-Makrantonaki M., Kormas A.K., Aggelaki A., Kapsis P., **Vlahos N.**, Mente E. (2018). Aquaponics: a mutually beneficial relationship of fish, plants and bacteria. Oral Presentation in 3rd HydroMediT 2018, Volos, Greece, November 9-11, 2018.
- **Vlahos N.**, Petra E., Antzoulatos G., Seferis K., Kakalettris G., Katselis G., Mente E. (2018). Using BlueBridge collaborate cloud environment as a learning tool for student education in aquaculture. e-poster in 3rd HydroMediT 2018, Volos, Greece, November 9-11, 2018.
- Kapantagakis A., Katselis G., Petra E., Tsagkatakis P., Tsakalides P., **Vlahos N** (2018). The Fresco project: automatic recognition of freshness. e-poster in 3rd HydroMediT 2018, Volos, Greece, November 9-11, 2018.
- **Vlachos N.**, Berillis P., Karapanagiotidis I.T., Kormas K., Korakis A., Maglavera S., Mente E. (2018). Future growth in sustainable, resilient and climate friendly organic and conventional European Aquaculture (FutureEUAqua). e-poster in 3rd HydroMediT 2018, Volos, Greece, November 9-11, 2018.
- **Vlahos, N.**, Akriovouli, A., Mente, E., Exadactylos A., Nystas T., Patsea E., Vidalis K., Hotos G. (2016). The effect of three different temperatures on the growth and survival rate of *Palaemon adspersus*. Proceeding of the 2nd International Congress on Applied Ichthyology & Aquatic Environment. 10-12 November 2016 Messolonghi –Greece pp:59-63. ISBN 978-618- 80242-3-6.
- Solovyen, M.M., Mente, E., **Vlahos, N.**, Makri, M and, Rottland, G. (2014). Digestive Enzymes profile During ontogenesis in zebra cichlid *Archocentrus nigrofasciatus*. EAS (Europe Aquaculture Society), Donistia –San Sebastian, Spain October 14-17, 2014.

- Karapanagiotidis, T.,J., Dretaki-Stamou, G., **Vlachos,N.**, Mente,E.,Kyritsi, S., Karalazos,V. (2013). The effect of various dietary protein and protein to energy Levels on Growth and Feed utilization of Sharpnout Seabream (*Diplodus puntazzo*), Aquaculture Europe, EAS, Making Sense of Science, Trondheim, Norway August 9-12, 2013.
- Psofakis, P., Mente, E., **Vlachos, N.**, and Karapanagiotidis, I.T. (2010) Feeding rate level of ornamental fish *Pterophyllum scalare*. 5th International Congress on Aquaculture Fisheries Technology and Environmental Management. 25-27 November 2010., Aquaculture & Fisheries Department, T.E.I. of Mesolonghi,Greece, EU ISBN: 978-960-87795-3-2
- Mente, E., **Vlachos, N.**, Hotos, G., Kormas, K., Karapanagiotidis, I.T., Psofakis, P. & Neofytou, C. (2008). Nutritional physiology of ornamental fishes. XIII International Symposium on Fish Nutrition and Feeding. Fish and Crustacean Nutrition: Present Knowledge and Future Perspectives. June 1-5, 2008, Florianopolis, Brasil.
- **Vlachos, N.**, Mente, E., Hotos, G.N., Kormas, K., Psofakis, P. and Neofitou, C. (2008). Commercial Production of *Pterophyllum scalare* (cn: Angelfish, Pisces Ciclidae) in aquarium. 4th International Congress on Aquaculture, Fisheries Technology and Environmental Management, 21 - 22 November 2008, Athens, Greece.
- **Vlachos, N.**, Mente, E., Hotos, G.N., Kormas, K., Tzoganis, C., Psofakis, P. and Neofitou, C. (2008). Effect of food supply on the growth rate of the convict cichlid, *Archocentrus nigrofasciatus* (Pisces Ciclidae) in aquarium. 4th International Congress on Aquaculture, Fisheries Technology and Environmental Management, 21 - 22 November 2008, Athens, Greece.
- **Vlachos, N.**, Mente, E., Hotos, G.N., Kormas, K., Tzoganis, C., Psofakis, P. and Neofitou, C. (2008). Effect of food supply on the growth rate of the angelfish *Pterophyllum scalare* (Pisces Ciclidae) in aquarium. 4th International Congress on Aquaculture, Fisheries Technology and Environmental Management, 21 - 22 November 2008, Athens, Greece.
- **Vlahos, N.**, Hotos, G. & Kapetanios, N. (2004). The effect of temperature on the conditioning of the filter bed in aquaria. 2nd International Congress on Aquaculture, Fisheries Technology and Environmental Management. 18 – 19 June 2004, Evgenidion Foundation, Athens, Greece.

National conferences

- Mitsopoulos I, Bampouklis K, **Vlahos N**, Verilis P, Mente E. (2022). Multitrophic aquaponic system: The case of co-culture of sea bream, sea bass and salicornia. 18^o National Conferences of Ichthyologist. Messolonghi 3-6 November 2022.
- Mardoglou E, Anastasiadis A, Koutrakis I, Koulopoulou C.E, Stefa Z.A, Pertesi M, Fousekis N, Mente E, **Vlahos N** (2022): The effect of volumetric TAN removal on the Functional and efficiency of brackish aquaponic systems. 18^o National Conferences of Ichthyologist. Messolonghi 3-6 November 2022.
- **Vlahos N.**, Mitsopoulos I., Bampouklis K., Kormas K., Berillis P., Mente E. (2019). Bacterial abundance in aquaponics under two salinities 20 ppt and 8 ppt. 42^oHellenic Congress of Biological Sciences, 9-11 May Katerini, Greece 2019.
- Martou N., K. Morfesis, E. Patsea, N. **Vlahos.**, E. Mende., Antonopoulou E (2019). Απόκριση μελών των Οικογενειών των HSPS και MAPKS στα είδη *Sparus aurata* and *Dicentrarchus labrax* σε διαφορετικές συγκεντρώσεις αλατότητων νερού. 42^oHellenic Congress of Biological Sciences, 9-11 May Katerini, Greece (2019).
- Spiliopoulou E., Stathopoulou P., **Vlachos N.**, Mente E and Berillis P. (2019). Measurements of two erythrocytes and Leucocytes differentiation in Tilapia blood. 42^oHellenic Congress of Biological Sciences, 9-11 May Katerini, Greece (2019).
- **Vlahos N.**, Kapetanios E., Frangou S., P. Stathopoulou., Levizou E., P. Berillis., N. Krigas., K. Kormas and E. Mente (2019). Alternative Water Uses: Aquaponic of Mediterranean Species in Brackish water. 14th Conference of the Hellenic Hydrotechnical Association (H.H.A).16-17 May, Volos, Greece. pp.114.

- Psafakis,P., Mente,E., Karapanagiotidis, I., **Vlahos,N.**, & Negkas,I. (2012). Food consumption and estimate of food level in the ornamental angelfish (*Pterophyllum scalare*).*Proceedings of 34^oHellenic Congress of Biological Sciences, 17-19 May*, Trikala, Greece, 2012, pp332.
- Ahtipi,K., Gerontis, Th., karapanagiotidis, I, **Vlahos,N.**, & Mente, E., (2012).The effect of different dietary protein in growth of the convict cichlid (*Archocentrus nigrofasciatus*). *Proceedings of 34^oHellenic Congress of Biological Sciences, 17-19 May*, Trikala, Greece, 2012, pp14
- **Vlahos,N.**, Vasilopoulos, M., Mente, E., Vidalis,K., Hotos, G., Katselis, G. (2012). Yolk-sac larval development of the substrate-brooding cichlid *Archocentrus nigrocasciatus* (Pisces: Cichlidae) in relation to temperature. *Proceedings of the 10th Hellenic Congress of Oceanography and Fisheries*. Athens, Greece, 7-11 May 2012, (In Greek with English summary).
- **Vlahos, N.**, Ramfos, A., Moutopoulos, D., Hotos, G., katselis, G. (2012). The study of ichthyofauna of Ahelloos river. *Proceedings of the 10th Hellenic Congress of Oceanography and Fisheries*. Athens, Greece, 7-11 May 2012, (In Greek with English summary).
- **Vlahos, N.**, Pachiadaki, G.M., Meziti, A.,Mente, E., Hotos, G., Kormas, K. (2010). Bacterial communities in ornamental fish aquariums: Preliminary results. *Proceedings of 32^oHellenic Congress of Biological Sciences (E.E.B.E.), 20-22 May*, Karpnisi, Greece, 2010.
- **Vlahos, N.**, Papatheodorou, G., Hotos, G., Sotiropoulou, A., Katoufas, I. & Giatsis, H. (2007). Concentration of heavy metals in the sediment of the Messolonghi lagoon. *13th Panhellenic Congress of Ichthyologists, Mytilini, Lesbos isl., 27-30 September 2007*, 479-482. (In Greek with English summary).
- Hotos, G. N. & **Vlahos, N.**, (2000). Mugilidae fry's tolerance to hypersalinity in experimental conditions. *Proceedings of the 6th Hellenic Congress of Oceanography and Fisheries*. Chios, Greece, 23-26 May 2000, v. II: 323 - 328. (In Greek with English summary).
- Hotos, G. N. & **Vlahos, N.**, (2000). A preliminary study on the growth of the fry of four Mugilid species in a recirculation system. *Proceedings of the 6th Hellenic Congress of Oceanography and Fisheries*. Chios, Greece, 23-26 May 2000, v. II: 358 - 360. (In Greek with English summary).

Participation in national projects

Member of the research team

- **1997-1999:** A preliminary study on the growth of the fry of four Mugilid species in a recirculation system
- **1999-2001:** Study of the metabolism and determination of safety limits of metabolic products from the main farmed fish species in Greece
- **2002-2004:** The Study the conditions of reproduction and growth of the main marketing ornamental fish fry in aquariums.
- **2005-2007:** Determination of the physicochemical properties of water and detection of heavy metal concentrations in the sediments of Messolonghi lagoon. Analysis of the physicochemical, geochemical and sedimentological data in GIS environment.
- **2006-2007:** Management of Natura sea region.
- **2011-2013:** Estimation of nutritional requirements of the Sharpshout seabream (*Diplodus puntazzo*).
- **2014-2015:** Study of biotic and abiotic parameters in Amvrakikos gulf and the gulf of Chalkidiki.
- **2015-2018:** Blue Bridge «Building Research environments, Decision making, Governance and Education»
- **2015-2017:** Study of the anoxic zone of Amvrakikos gulf: Imprinting, Effects and Management.
- **2017:** Study of biotic and abiotic parameters of POAY of Leros Island-Greece
- **2017:** Recording sedimentological and environmental parameters in marine aquaculture parks
- **2018-2019:** Development and optimization of an aquaponic system one more step towards the efficient of food production (FoodOasis)
- **2018-2021:** Future growth in sustainable, resilient and climate friendly organic and conventional European aquaculture (FutureEUAqua)

- **2018-2021:** Freshness Recording System for fish Quality Observation, EPAL.2014-2020

Referee activity-Member of Editorial Board

- ***Referee activity***
 - SpringerPlus
 - Turkish Journal of Fisheries and Aquatic Sciences
 - Aquaculture Research
 - Aquaculture
 - MDPi Open Access Journal
- ***Member of Editorial Board***
 - Water (special issue of HydromediT 2018)
 - Journal of FisheriesSciences.com

Other activities

Member of organizing committee of International Congress

- 4th*International; Congress in Aquaculture, Environment and fisheries management*, AquamediT 2008, Athens, Greece 21-22 November 2008.
- 5th *International; Congress in Aquaculture, Environment and fisheries management*, AquamediT,2010, Athens, Greece 21-22 November 2010.
- 1th*International; Congress of Applied ichthyology & aquatic Enviroment*, HydromediT 2014, Volos, Greece 13-15 November 2014.
- 2th *International Congress of Applied ichthyology & aquatic Enviroment*, HydromediT 2016, Messolonghi, Greece 10-12 November 2016
- 3th *International Congress of Applied ichthyology & aquatic Enviroment*, HydromediT 2018,Volos, Greece 8-11 November 2018
- 4th *International Congress on Applied ichthyology , Oceanography & Aquatic Environment*, HydromediT 2021, 4-7 November 2021 Mytilene, Greece.