

SERHAT TURKMEN, Ph.D.

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EDUCATION

- 2023 – Present** **Postdoc**, Cell, Developmental, and Integrative Biology, School of Medicine University of Alabama at Birmingham, Birmingham, United States
- 2019 – 2022** **Postdoc**, Biology, College of Arts and Sciences, University of Alabama at Birmingham, Birmingham, United States
- 2014 – 2019** **Doctor of Philosophy (Ph.D.)**, Sustainable Aquaculture and Marine Ecosystems University of Las Palmas de Gran Canaria, Las Palmas, Spain
- 2012 – 2014** **Master of Science (M.Sc.)**, International Master's in Marine Aquaculture University of Las Palmas de Gran Canaria, Las Palmas, Spain
- 2010 – 2012** **Master of Science (M.Sc.)**, Institute of Applied Sciences, Aquaculture Nutrition, Cukurova University, Adana, Turkey
- 2004 – 2009** **Bachelor of Science (B.Sc.)**, Aquaculture and Fisheries Engineering Cukurova University, Adana, Turkey

ACADEMIC APPOINTMENTS

- 2023 –** **Postdoctoral Researcher** – Department of Cell, Developmental and Integrative Biology, University of Alabama at Birmingham, AL, USA
- 2019 – 2022** **Postdoctoral Researcher** – Department of Biology, University of Alabama at Birmingham, Birmingham, AL, USA
- 2017 – 2019** **Predocctoral Researcher** Marine Biology, Institute of Sustainable Aquaculture and Marine Ecosystems University of Las Palmas de Gran Canaria, Las Palmas, Spain
- 2014 – 2017** **Ph.D. Fellow** Marine Biology, Institute of Sustainable Aquaculture and Marine Ecosystems University of Las Palmas de Gran Canaria, Las Palmas, Spain
- 2010 – 2016** **Research Assistant** Aquaculture and Fisheries Engineering Cukurova University, Adana, Turkey

RESEARCH OVERVIEW

My research examines how dietary fatty acids especially omega-3 and omega-6 long-chain polyunsaturated fatty acids (LC-PUFAs) regulate development, metabolism, reproduction, and aging across species. A central theme is nutritional programming, where parental and early-life diets induce persistent physiological effects through epigenetic regulation. In aquaculture systems, I have shown how broodstock diets enriched or deficient in fish oil alter progeny performance, fatty-acid metabolism, and gene expression, identifying epigenetic biomarkers linked to long-term health and feed utilization. This work supports development of sustainable feeds that reduce reliance on finite marine resources while maintaining productivity in key aquaculture species.

At the University of Alabama at Birmingham, I extend these questions to biomedical models using genetically tractable *C. elegans* to study how omega-3 fatty acids (EPA, DPA, DHA) modulate neuronal function, learning, and memory. By combining lipidomics, transcriptomics, and epigenetic profiling, my goal is to uncover conserved molecular pathways through which fatty acids shape metabolism and behavior, with relevance to neurodegenerative disease and diet-based interventions.

RESEARCH INTERESTS AND HIGHLIGHTS

Core research interests:

- Nutritional programming and fatty-acid metabolism in aquaculture and model species
- Epigenetic regulation of metabolism (DNA methylation, histone acetylation)
- Broodstock and larval nutrition, sustainable feeds, and fish-oil alternatives
- Transgenerational and intergenerational effects of nutrition on growth and health
- Model systems: nematode (*C. elegans*), zebrafish (*Danio rerio*)
- Applied aquaculture species: gilthead seabream (*Sparus aurata*), European seabass (*Dicentrarchus labrax*), Pacific white shrimp (*Litopenaeus vannamei*), Nile tilapia (*Oreochromis niloticus*), rainbow trout (*Oncorhynchus mykiss*)

Research Highlights

- 23+ peer-reviewed publications (**h-index 17, >910 citations as of January 2026**)
- Editorial Board: *Scientific Reports* (2024–present); *Reviews in Aquaculture* (2020–present)
- Major EU & USDA project experience (*PerformFISH*, *ARRAINA*, *USDA DIET-Epigenetic Interactions*)
- Pioneered nutritional programming approaches in aquaculture broodstock to enhance offspring performance
- First demonstrations of epigenetic biomarkers linking broodstock diet to progeny metabolism

TEACHING & MENTORSHIP

Teaching

- 14+ years of international teaching and mentoring experience in aquaculture, fish nutrition, and biology across Europe (Spain, Turkey) and the U.S.
- *Teaching philosophy*: student-centered, research-led, and technology-enhanced. Integrates AI-assisted learning tools to enrich classroom engagement while designing assessments that ensure originality, critical thinking, and individual effort.
- **Courses taught:**
 - ***Aquaculture of Crustaceans and Bivalvia*** – Teaching Assistant, Çukurova University (lectures, lab classes, field trips to commercial hatcheries)
 - ***Introduction to Research in Fish*** – Lead Lecturer, Çukurova University (elective course; feed formulation, fish culture systems, practical research methods)
 - ***Broodstock Nutrition in Fish*** – Invited Lecturer, CIHEAM International Course, Spain (lecture on broodstock nutrition in Mediterranean aquaculture)
 - ***Introduction to Biology*** – Teaching involvement, UAB (online via Canvas during COVID-19 and in-person courses)

Mentorship & Research Training

- **Co-mentored PhD students:**
 - Hanlin Xu (China) – published 3 papers, now researcher in China
 - Shajahan Ferosekhan (India) – published 3 papers, now researcher at NOFIMA, Norway
- **Supervised Master's students:**
 - Enes Kinay (Turkey) – aquaculture industry
 - Merve Sariipek (Turkey) – now Assistant Professor, Sinop University
 - Thi Thanh Ly Luu (Vietnam) – now Lab Technician, UAB School of Medicine
- **Supervised Undergraduate students:**
 - Khalij Freij (USA) – now Biostatistician, UAB
 - Amy Prajapati (USA) – now PhD student
 - Adrian Garibay (USA) – now Lab Manager, Hjelmeland Lab, CDIB, UAB
- **Overall:** Mentored 2 PhD, 6 MSc, and 9 undergraduate students across UAB, University of Las Palmas, and Çukurova University.

EXTENSION & OUTREACH

- Collaborated on EU Horizon and FP7 projects to develop feeding guidelines and technical reports for farmers and aquafeed companies.
- Presented research outcomes to aquaculture stakeholders and industry partners across Europe (Spain, Portugal, Turkey, Sweden), promoting the adoption of sustainable practices.

PUBLICATIONS

Peer-reviewed Journal Articles (Citations: 828, h-index: 16 data from Google Scholar captured on August 22, 2025)

24. Mabry S.J., Cao X., Zhu Y., Rowe C., Patel S., González-Arancibia C., Romanazzi T., Saleeby D.P., Elam A., Lee H.-T., **Turkmen S.**, Lauzon S.N., Hernandez C.E., Sun H., Wu H., Carter A.M., Galli A. (2025). *Fusobacterium nucleatum* enhances amphetamine-induced behavioral responses through a butyrate-driven epigenetic mechanism. *Science Signaling*, 18(789): eadx7729. <https://doi.org/10.1126/scisignal.adx7729> (Impact Factor 2023: 6.7)
23. Reid R.M., **Turkmen S.**, Cleveland B.M., Biga P.R. (2024). Direct actions of growth hormone in rainbow trout (*Oncorhynchus mykiss*) skeletal muscle cells in vitro. *Comparative Biochemistry and Physiology Part A: Molecular & Integrative Physiology*, 297:111725. <https://doi.org/10.1016/j.cbpa.2024.111725>
22. Roy K., **Turkmen S.**, Turchini G. M., (2023) Circularity in Aquaculture, *Reviews in Aquaculture*, 13-2022 <https://doi.org/10.1111/1753-5131.circularity-in-aquaculture> Impact Factor (2023): 8.8
21. Azaza M., Peres H., **Turkmen S.** (2023) Nutritional physiology of aquacultured species *Frontiers in Physiology*, 13-2022 <https://doi.org/10.3389/fphys.2022.1130143> Impact Factor (2023): 3.2
20. Ferosekhan S., **Turkmen S.**, Afonso J.M., Zamorano M.J., Izquierdo M. (2021) Influence of genetic selection for growth and broodstock diet n-3 LC-PUFA levels on reproductive performance of gilthead seabream, *Sparus aurata Animals*, 11(2):519 <https://doi.org/10.3390/ani11020519> Impact Factor (2023): 2.7

19. Xu H., Ferosekhan S., **Turkmen S.**, Afonso J.M., Zamorano M.J., Izquierdo M. (2021) High broodstock *fads2* expression combined with nutritional programming through broodstock diet improves the use of low fishmeal and low fish oil diets in gilthead seabream (*Sparus aurata*) progeny *Aquaculture*, 736321 <https://doi.org/10.1016/j.aquaculture.2020.736321> Impact Factor (2023): 4.4
18. **Turkmen S.**, Zamorano M.J., Xu H., Fernández-Palacios H., Robaina L., Izquierdo M. (2020) Parental LC-PUFA biosynthesis capacity and nutritional intervention with ALA affect performance of *Sparus aurata* progeny *Journal of Experimental Biology* 223: jeb214999 <https://doi.org/10.1242/jeb.214999> Impact Factor (2023): 2.8
17. Xu H., Ferosekhan S., **Turkmen S.**, Afonso J.M., Zamorano M.J., Izquierdo M. (2020) Influence of parental fatty acid desaturase 2 (*fads2*) expression and diet on gilthead seabream (*Sparus aurata*) offspring *fads2* expression during ontogenesis *Animals*, 10 (11), 2191 <https://doi.org/10.3390/ani10112191> Impact Factor (2023): 2.7
16. Ferosekhan S., Xu H., **Turkmen S.**, Gomez A., Afonso J.M., Fontanillas R., Roselund G., Kaushik S., Izquierdo M. (2020) Reproductive performance of gilthead seabream (*Sparus aurata*) broodstock showing different expression of fatty acyl desaturase 2 and fed two dietary fatty acid profiles *Scientific Reports*, 10 15547 <https://doi.org/10.1038/s41598> Impact Factor (2023): 3.8
15. Ferosekhan S., **Turkmen S.**, Xu H., Afonso J.M., Zamorano M.J., Kaushik S., Izquierdo M. (2020) The relationship between the expression of fatty acyl desaturase 2 (*fads2*) gene in peripheral blood cells (pbcs) and liver in gilthead seabream, *Sparus aurata* broodstock fed a low n-3 LC-PUFA diet *Life* 10 (7), 117 <https://doi.org/10.3390/life10070117> Impact Factor (2023): 3.2
14. Perrera E., **Turkmen S.**, Zamorano M.J., Simo-Miramet P., Xu H., Izquierdo M. Perez-Sanchez J., (2020) Stearoyl-CoA desaturase (*scd1a*) is epigenetically regulated by broodstock nutrition in gilthead sea bream (*Sparus aurata*) *Epigenetics* 15 (5), 536-553 <https://doi.org/10.1080/15592294.2019.1699982> Impact Factor (2023): 2.9
13. **Turkmen S.**, Perrera E., Zamorano M.J., Simo-Miramet P., Xu H., Perez-Sanchez J., Izquierdo M. (2020) Effects of dietary lipid composition and fatty acid desaturase 2 expression in broodstock gilthead sea bream on lipid metabolism-related genes and methylation of the *fads2* gene promoter in their offspring *International Journal of Molecular Sciences* 20 (24), 6250 <https://doi.org/10.3390/ijms20246250> Impact Factor (2023): 4.9
12. Yilmaz A., **Turkmen S.**, Kumlu M., Erolodogun O.T., Perker N (2020) Alteration of growth and temperature tolerance of European sea bass (*Dicentrarchus labrax*, Linnaeus 1758) in different temperature and salinity combinations *Turkish Journal of Fisheries and Aquatic Sciences* 20 (5), 331-340 http://doi.org/10.4194/1303-2712-v20_5_01 Impact Factor (2023): 1.5
11. Xu H., **Turkmen S.**, Rimoldi S., Terova G., Zamorano M.J., Afonso J.M., Sarih S., Fernández-Palacios H., Izquierdo M. (2019) Nutritional intervention through dietary vegetable proteins and lipids to gilthead sea bream (*Sparus aurata*) broodstock affects the offspring utilization of a low fishmeal/fish oil diet *Aquaculture*, 513, Article: 734402 <https://doi.org/10.1016/j.aquaculture.2019.734402> Impact Factor (2023): 4.4
10. **Turkmen S.**, Hernández-Cruz C.M., Zamorano M.J., Fernández-Palacios H., Montero D., Afonso J.M., Izquierdo M. (2019) LC-PUFA profiles in parental diets induced long-term effects on growth, fatty acid profiles and expression of selected PUFA metabolism and immune system related genes in gilthead seabream offspring *British Journal of Nutrition*,

- 12, 25-38 <https://doi.org/10.1017/S0007114519000977> Impact Factor (2023): 3.3
9. Saleh R., Burri L., Benitez-Santana T., **Turkmen S.**, Castro P., Izquierdo M. (2018) Dietary krill meal inclusion contributes to better growth performance of gilthead seabream juveniles *Aquaculture research*, 49 (10), 3289-3295 <https://doi.org/10.1111/are.13792> Impact Factor (2023): 2.1
 8. **Turkmen S.**, Zamorano M.J., Fernández-Palacios H., Hernández-Cruz C.M., Montero D., Robaina L., Izquierdo M. (2017) Parental nutritional programming and a reminder during juvenile stage affect growth, lipid metabolism and utilisation in later developmental stages of a marine teleost, the gilthead sea bream (*Sparus aurata*) *British Journal of Nutrition*, 118, 500-512 <https://doi.org/10.1017/S0007114517002434> Impact Factor (2023): 3.3
 7. **Turkmen S.**, Castro P.L., Caballero M.J., Hernández-Cruz C.M., Saleh R., Zamorano M.J., Regidor J., Izquierdo M. (2017) Nutritional stimuli of gilthead seabream (*Sparus aurata*) larvae by dietary fatty acids: effects on larval performance, gene expression and neurogenesis *Aquaculture Research*, 48, 202-213 <https://doi.org/10.1111/are.12874> Impact Factor (2023): 2.1
 6. Izquierdo M., **Turkmen S.**, Montero D., Zamorano M.J., Afonso J.M., Karalazos V., Fernández- Palacios H. (2015) Nutritional programming through broodstock diets to improve utilization of very low fishmeal and fish oil diets in gilthead sea bream *Aquaculture*, 449, 18-26 <https://doi.org/10.1016/j.aquaculture.2015.03.032> Impact Factor (2023): 4.4
 5. Dulger N., Kumlu M., **Turkmen S.**, Olculu A., Eroldogan O. T., Yilmaz H. A. (2012) Thermal tolerance of European Sea Bass (*Dicentrarchus labrax*) juveniles acclimated to three temperature levels *Journal of Thermal Biology*, 37, 79-82 <https://doi.org/10.1016/j.jtherbio.2011.11.003> Impact Factor (2023): 3.1
 4. **Turkmen S.**, Eroldogan O. T., Yilmaz H. A., Olculu A., Inan G. A., Tekelioglu N. (2011) Compensatory growth response of European sea bass (*Dicentrarchus labrax* L.) under cycled starvation and restricted feeding rate. *Aquaculture Research*, 43(11), 1643–1650 <https://doi.org/10.1111/j.1365-2109.2011.02970.x> Impact Factor (2023): 2.1
 3. Kumlu M., **Turkmen S.**, Kumlu M., Eroldogan O. T. (2011) Off-season maturation and spawning of the Pacific white shrimp *Litopenaeus vannamei* in sub-tropical conditions. *Turkish Journal of Fisheries and Aquatic Sciences*, 11, 15-23 <https://doi.org/10.4194/trjfas.2011.0103> Impact Factor (2023): 1.5
 2. Kumlu M., **Turkmen S.**, Kumlu M. (2010) Thermal tolerance of *Litopenaeus vannamei* (Crustacea: Penaeidae) acclimated to four temperatures *Journal of Thermal Biology*, 30, 304-306 <https://doi.org/10.1016/j.jtherbio.2010.06.009> Impact Factor (2023): 3.1
 1. Kumlu M., Kumlu M., **Turkmen S.** (2010) Combined effects of temperature and salinity on critical thermal minima of pacific white shrimp *Litopenaeus vannamei* (Crustacea: Penaeidae) *Journal of Thermal Biology*, 30, 306-308 <https://doi.org/10.1016/j.jtherbio.2010.06.00> Impact Factor (2023): 3.1

Preprints and Manuscripts

2. Turkmen, S., Sun, H. Diet-Driven Adaptations in *C. elegans*: Effects of Bacterial Food Sources on Development, Reproduction, Behavior, and Lifespan. (Manuscript in preparation)
1. Turkmen, S., Sun, Y. Omega-3 Fatty Acids (EPA, DPA, DHA) Modulate Development, Reproduction, Behavior, and Lifespan in *C. elegans*. (Manuscript in preparation)

Editorial & Professional Services

- **Editorial Board member**, Scientific Reports, Springer Nature— IF 3.8 (2024–present)
- **Editorial Board member**, Reviews in Aquaculture, Wiley – IF 8.8 (2020–present)
- **Guest Editor**, Frontiers in Physiology, Research Topic: Nutritional Physiology of Aquacultured Species (2023) – IF 3.2

Reviewer for:

- **Biomedical and neuroscience journals:** New England Journal of Medicine, International Journal of Developmental Neuroscience, Proteome Science, Scientific Reports
- **Nutrition and lipid metabolism journals:** British Journal of Nutrition, Food Science and Human Wellness, Food Science and Nutrition, Lipids
- **Aquaculture and fisheries journals:** Aquaculture, Aquaculture Reports, Aquaculture International, Fish and Fisheries, Fish Biology and Fisheries, North American Journal of Aquaculture
- **Physiology and integrative science journals:** Frontiers in Physiology, Marine Drugs

Academic Service

- **Poster Judge (Referee)** – *Worm 2025 International C. elegans Conference*, UC Davis, CA (2025)
- **Committee Member** – SciTech Honors Thesis, **Nash Robinson** (Chemistry), UAB (2024)
- **Committee Member** – SciTech Honors Thesis, **Emma Sautman** (Genetics & Genomic Sciences), UAB (2024)
- **Committee Member** – SciTech Honors Thesis, **Craig Peters** (Genetics & Genomic Sciences / Accelerated Master's Multidisciplinary Biomedical Sciences), UAB (2024)
- **External Referee** – PhD Thesis of **Raquel Quirós Pozo**, Sustainable Aquaculture, University of Las Palmas de Gran Canaria, Spain (2023)

International Meetings – Oral Presentations

18. **Turkmen S.**, Izquierdo M., (2022) Nutritional programming of gilthead sea bream *Sparus aurata*: Improvements towards better utilization of low n-3 HUFA diets, Oral presentation, Aquaculture 2022, **San Diego, California, USA**
17. Biga P., Latimer M., **Turkmen S.**, Freij K., Sabin N., Le Cam A., Seiliez I., Gabillard J. (2022) Methionine restriction diminishes skeletal muscle cell differentiation through epigenetic mechanisms in rainbow trout (*Oncorhynchus mykiss*), Oral presentation, Aquaculture 2022, **San Diego, California, USA**
16. Freij K., **Turkmen S.**, Cleveland B., Biga P., (2022) Improving rainbow trout (*Oncorhynchus mykiss*) growth performance through optimization of diet-epigenetic interactions, Oral presentation, Aquaculture 2022, **San Diego, California, USA**
15. Perera E., **Turkmen S.**, Simo-Mirabet P., Zamorano M.J., Xu H. Izquierdo M., Perez-Sanchez J. (2019) Stearoyl-CoA desaturase (*scd1a*) is epigenetically regulated by broodstock nutrition in gilthead sea bream (*Sparus aurata*) Oral presentation, **Aquaculture Europe, Berlin, Germany**
14. Xu H., Ferosekhan S., **Turkmen S.**, Montero D., Afonso J.M., Izquierdo M. (2019) Improved

- use of low FM and FO diets in gilthead sea bream (*Sparus aurata*) juveniles obtained by combined broodstock selection and nutritional programming Oral presentation, **Aquaculture Europe, Berlin, Germany**
13. **Turkmen S.**, Xu H., Izquierdo M. (2019) Nutritional programming of lipid metabolism in gilthead sea bream: Transgenerational effects of broodstock selection and feeding Oral presentation, **Aquaculture Europe, Berlin, Germany**
 12. Ferosekhan S., Perez-Garcia C., **Turkmen S.**, Xu H., Afonso J.M., Fontanillas R., Kaushik S., Izquierdo M. (2019) Influence of genetic selection for growth and dietary n-3 LC-PUFA levels on reproductive performance in gilthead sea bream *Sparus aurata* Oral presentation, **Aquaculture Europe, Berlin, Germany**
 11. **Turkmen S.**, Xu H., Ferosekhan S., Zamorano M.J., Izquierdo M. (2019) Potential of role of epigenetics to improve utilisation of low n-3 LC-PUFA feeds in aquaculture: Studies in a marine vertebrate gilthead sea bream (*Sparus aurata*) Oral presentation, **70th Annual EAAP Meeting of the European Federation of Animal Science, Ghent, Belgium**
 10. **Turkmen S.**, Xu H., Fernández-Palacios H., Zamorano M.J., Izquierdo M. (2018) Nutritional programming of gilthead sea bream: Improvements towards better utilization of low n-3 HUFA diets. Oral presentation, **International Symposium on Fish Nutrition and Feeding, Las Palmas, Spain**
 9. Xu H., **Turkmen S.**, Ferosekhan S., Fernández-Palacios H., Afonso J.M., Izquierdo M. (2018) Effect of low fish meal and fish oil diet on growth performance, hepatic fatty acid composition and *fads2* expression of juvenile gilthead sea bream (*Sparus aurata*) from nutritional programmed broodstock Oral presentation, **International Symposium on Fish Nutrition and Feeding, Las Palmas, Spain**
 8. **Turkmen S.**, (2017) Programación nutricional y epigenética en peces. Oral presentation, **Día Mundial de Acuicultura, Las Palmas, Spain**
 7. **Turkmen S.**, (2017) Nutritional programming in Fish: “*Sparus aurata* as a model for nutritional programming of marine fish”. Oral presentation, **ECOAQUA Institute Epigenetic Meeting, Las Palmas, Spain**
 6. **Turkmen S.**, Xu H., Saleh R., Hernández-Cruz C.M., Zamorano M.J., Izquierdo M. (2017) Nutritional programming through broodstock nutrition: effect of low fish meal and/or fish oil diets on offspring larval performance: growth, biochemical composition and gene expression. Oral presentation, **Aquaculture Europe, Dubrovnik, Croatia**
 5. **Turkmen S.** (2017) Can we prepare the fish for their future environment? - Nutritional programming. Oral presentation, **Aquaculture Europe, Dubrovnik, Croatia**
 4. **Turkmen S.**, Hernández-Cruz C.M., Zamorano M.J., Sarih S., Xu H., Izquierdo M. (2017) Nutritional programming through broodstock diets in gilthead sea bream; effects on spawning quality, larval growth and long-term effects on the offspring Oral presentation, **larvi 2017, Ghent, Belgium**
 3. **Turkmen S.**, Fernández-Palacios H., Hernández-Cruz C.M., Zamorano M.J., Izquierdo M. (2016) Testing long-term effects of parental nutritional programming with vegetable oils and a “reminder” diet during juvenile stage on growth and lipid metabolism-related genes in gilthead sea bream (*Sparus aurata*). Oral presentation, **International Symposium on Fish Nutrition and Feeding, Sun Valley, Idaho, USA**
 2. **Turkmen S.**, Izquierdo M. (2014) *Sparus aurata* as a model for nutritional reprogramming of marine fish: Effectiveness of different developmental windows. Oral presentation, **Epigenetics and Preconception Environment, Las Palmas, Spain**
 1. Eroldogan O. T., Yilmaz H. A., Arslan M., Sirkecioglu A. N., **Turkmen S.**, Cicek i. C., Dedeler H., (2011) Apparent digestion of nutrient and fatty Acid in European sea bass (*Dicentrarchus labrax*) fed rapeseed or cottonseed oil-based diets. Oral presentation, **Aquaculture Europe,**

International Meetings – Poster Presentations

9. Ferosekhan S., Xu H., **Turkmen S.**, Fernández-Palacios H., Afonso J.M., Gomez A., Kaushik S., Izquierdo M. (2018) Influence of dietary fatty acid profile on reproductive performance in gilthead seabream, *Sparus aurata* broodstock selected for high or low *fads2* expression Poster presentation, **International Symposium on Fish Nutrition and Feeding, Las Palmas, Spain**
8. Saleh R., Burri L., Benitez-Santana T., **Turkmen S.**, Castro P., Izquierdo M. (2018) Dietary Krill Meal Inclusion Contributes to Better Growth Performance of Gilthead Seabream Juveniles Poster presentation, **Dia Mundial de Acuicultura, Las Palmas, Spain**
7. Xu H., **Turkmen S.**, Sarih S., Fernández-Palacios H., Zamorano M.J., Afonso J.M., Izquierdo M. (2017) Nutritional programming through broodstock nutrition: effect of low fishmeal and/or fish oil diets on spawning quality of broodstock with high *fads2* expression **Poster presentation, Aquaculture Europe, Dubrovnik, Croatia**
6. Saleh R., Betancor M., **Turkmen S.**, Izquierdo M. (2017) Dietary phospholipid type and level in microdiets for gilthead sea-bream larvae: effects on histological changes in intestine and liver **Poster presentation, larvi 2017, Ghent, Belgium**
5. Eroldogan O. T., Ocal N. N., Yilmaz H. A., **Turkmen S.**, Olculu A. (2016) The effects of short starvation and refeeding on lipid metabolism in European sea bass *Dicentrarchus labrax* at different temperatures. Poster presentation, **Aquaculture Europe, Edinburgh, Scotland**
4. **Turkmen S.**, Fernández-Palacios H., Hernández-Cruz C.M., Zamorano M.J., Izquierdo M. (2016) Effects of selection of broodstock by a genetic biomarker (*delta-6-desaturase*) and nutritional programming by vegetable oil inclusion in the broodstock diets: effects on reproduction quality and larval growth of gilthead sea bream *Sparus aurata*. **Poster presentation, Aquaculture Europe, Edinburgh, Scotland**
3. **Turkmen S.**, Izquierdo M. (2015) Testing long-term effects of parental nutritional programming and a “remainder” juvenile programming on lipid metabolism and growth in *Sparus aurata*. Poster presentation, **Epigenetics and Preconception Environment, Dubrovnik, Croatia**
2. Yilmaz H. A., Eroldogan O. T., Engin K., Olculu A., Tasbozan O., **Turkmen S.** (2010) Partial and total replacement of fish oil either canola or cotton seed oils in diets 2010 for European sea bass (*Dicentrarchus labrax*): effects on flesh and whole body fatty acid composition. Poster presentation, **International Symposium on Fish Nutrition and Feeding, Qingdao, China**
1. Eroldogan O. T., Cicek C.I., Yilmaz H. A., Dedeler H., **Turkmen S.** (2010) Gastrointestinal evacuation time in European sea bass (*Dicentrarchus labrax*) fed diets containing mixture of vegetable oils at high temperature. Poster presentation, **International Symposium on Fish Nutrition and Feeding, Qingdao, China**

AWARDS & HONORS

- **REC Scholar (Trainee), UAB Alzheimer’s Disease Research Center (2025–2026)** – project on omega-3 fatty acids in *C. elegans* learning & memory
- Best Student Oral Presentation – International Symposium on Fish Nutrition and Feeding (ISFNF), Las Palmas, Spain (2018)
- Scholarship – 70th Annual Meeting of the European Federation of Animal Science (EAAP), Ghent, Belgium (2019)
- Travel Grant – Aquaculture Europe, Dubrovnik, Croatia (2017)
- Travel Grant – Larvi ’17 Symposium, Ghent University, Belgium (2017)

- COST Action *Epiconcept* Travel Awards – Supported participation in international congresses and workshops, European Union (2016–2017)
- Fully Financed Participation – CIHEAM Young Researchers Forum, Bari, Italy (2012)
- Full Grant – III. University Master’s in Marine Aquaculture, CIHEAM, Spain (2012–2014)
- Scholarship – Scientific Research Grant, Research Council of Turkey (2009)
- Student Exchange Program Grants – Çukurova University, Turkey (2007–2008; 2010–2011)

EXPERIMENTAL AND TECHNICAL EXPERTISE ---

- **Biochemistry and Lipid Analysis:** Proximate composition (including larvae); FAME preparation; GC-FID/GC-MS fatty-acid profiling.
- **Molecular Biology and Epigenetics:** DNA/RNA extraction; RT-qPCR and ddPCR; DNA methylation (MSAP, ddPCR); targeted/untargeted metabolomics; RNA-seq and RRBS data analysis.
- **Aquatic Species Research:** Marine and freshwater fish (full life-cycle work in gilthead seabream; on-growing and broodstock; European seabass across salinities; tilapia; rainbow trout); shrimp (full life cycle—wild broodstock acclimation, seed production; *Litopenaeus vannamei*, *Penaeus kerathurus*, *P. semisulcatus*); model species—zebrafish.
- **Lab management and Experimental Design** Experimental design and sampling; custom diet formulation; design/maintenance of aquaculture research systems; statistical analysis; inventory and procurement of equipment/chemicals.
- **Software and Computational Skills:** Microsoft Office, Adobe Photoshop, Endnote, SPSS, SigmaPlot and R.

MAJOR RESEARCH PROJECTS AND COLLABORATIONS ---

- **USDA - DIET – EPIGENETIC INTERACTIONS (2020-2022)** Improving rainbow trout growth performance through optimization of diet-epigenetic interactions PI: P. Biga | Co-PI: Cleveland | Role: Subaward (\$25,000 of \$500,000 total)
- **HORIZON 2020 – PerformFISH (2017-2019)** European commission funded Horizon 2020 project “Integrating Innovative Approaches for Competitive and Sustainable Performance across the Mediterranean Aquaculture Value Chain (PerformFISH)” under WP4 Efficient feeds to improve the current KPIs in production systems (2017-2019).
- **FP7 – ARRINA (2012-2016)** European commission funded FP7 project “Advanced Research Initiatives for Nutrition & Aquaculture (ARRINA)” under WP 6.1 Genetic programming of Gilthead sea bream larvae to better utilization of vegetable lipid sources in juveniles and WP 6.4 Early programming of embryos and lecithotrophic larvae through broodstock feeding (2012-2016).
- **THERMAL STRESS IN CRUSTACEANS (2010)** Determination of critical thermal minima (CTmin) and critical thermal maxima (CTmax) values of Pacific white shrimp (*Litopenaeus vannamei*) (2010).
- **TEMPERATURE EFFECTS IN REPRODUCTION (2009)** Effects of water temperature on off-season reproduction of Pacific white shrimp (*Litopenaeus vannamei*) (2009).

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