

KEVIN M. FITZSIMMONS, Ph.D.

Professor, Extension Specialist, Research Scientist and Director (Office of International Programs)

Education

Ph.D. - University of Arizona, Wildlife and Fisheries Science

M.S. - University of West Florida, Marine Biology

B.S. - University of Arizona, Ecology and Evolutionary Biology

Academic Employment

2008 – Present Director, International Programs, College of Agriculture and Life Sciences, University of Arizona

2006 Full Professor, Research Scientist and Extension Specialist - Department of Soil, Water and Environmental Science

Joint appointments in Department of Fisheries Science and Department of Bio-systems Engineering

1993 – 2006 Extension Specialist - Department of Soil, Water and Environmental Science

1981 - 1992 Program Coordinator-UArizona,

1979-1980 Biologist – National Marine Fisheries Service, Destin, Florida

Teaching and Research Interests

Freshwater and Marine Algae 475/575, Aquatic Plants and the Environment 474/574, Intro to Aquaculture 456/556, Aquaculture, Tilapia, Re-use of aquaculture effluents for crop irrigation, Integrated aquaculture - agriculture systems, farming systems using seawater on desert seacoasts, alternatives for fishmeal & fish oil in aquafeeds

Representative Funded Projects (out of 50+)

1. Niger NRAMP – Co-PI, USAID, \$6,900,000 2023-2026.
2. Preparing Hispanics & other Underrepresented Students in Fisheries & Aquaculture, PI, NIFA \$995,650 2023-2026.
3. Marine Conservation for Forage Fish. PI, Anthropocene Institute, \$385,000 2016 - 2024.
4. Aquaponics with insect meal, Israel, Kenya and Arizona, PI Jewish National Fund, \$240,000, 2022-2025.
5. Sustainable Seafood and Aquaculture for Burma. PI, USAID, \$1,728,800, 2014 – 2017.
6. Farmer to Farmer – Aquaculture Niche Program – 2. PI. USAID, \$182,000. 2010 - 2012.
7. Developing sustainable aquaculture for coastal and tilapia systems in the Americas, PI, Aquaculture/Fisheries CRSP, \$400,401 2007-2011.
8. Aquaculture TIES (Training, Internships, Exchanges, and Scholarships) Arizona-Mexican Universities. PI, USAID \$278,191. 2004-2007

Honors, Awards, Professional Certifications

Past - President World Aquaculture Society and Past-President of US Aquaculture Society

Fellow of the World Aquaculture Society (2022) – career recognition of service to the industry and Society

Biosphere 2 Fellow – 2023.

Past - Chairman - Aquaculture without Frontiers – a global aquaculture charity

Fulbright Fellow - Visiting Professor - 2004 – Asian Institute of Technology – Bangkok, Thailand

Fulbright Research Fellow 2017 – Yangon U, Myanmar, Nong Lam U., and Asian Institute of Technology

Jan Heine Award – Professional Contributions to Aquaculture

Certified Professional Fisheries Scientist, No. 1932

Outstanding Service to China's Tilapia Industry Award – China Department of Agriculture (2007)

Publications – Selected Books (out of 11):

Meenakshisundaram, M., and Fitzsimmons, K. 2019. **Proceedings of the 12th International Symposium on Tilapia in Aquaculture.** American Tilapia Association and World Aquaculture Society. Chennai, India. 229 pp.

Fitzsimmons, K., Tun, Soe and Lwin Tun, K 2018. **Aquaculture Handbook: Fish and Crustacean Farming in Myanmar.** USAID. Yangon, Myanmar

Lui Liping and Fitzsimmons, K. 2011. **Better Science, Better Fish, Better Life - Proceedings of the Ninth International Symposium on Tilapia in Aquaculture.** American Tilapia Association and Department of Agriculture, Shanghai, China. ISBN: 978-1-888807-19-6. 450pp.

Elghobashy, H., Fitzsimmons, K. and Diab, A.S. 2008. (eds) **From the Pharaohs to the Future: Proceedings of the Eighth International Symposium on Tilapia in Aquaculture.** Egypt Ministry of Agriculture, ISBN 978-1-888807-18-9. Cairo, Egypt, 1447pp.

Contreras-Sanchez, W. and Fitzsimmons, K. 2006 eds. **Tilapia, Sustainable Aquaculture from the new Millennium - Proceedings of the Seventh International Symposium on Tilapia in Aquaculture.** American Tilapia Association, Aquaculture CRSP. Veracruz, Mexico. 389pp.

Morrison, C., Fitzsimmons, K. and J.R. Wright 2006. **Atlas of Tilapia Histology.** World Aquaculture Society, Baton Rouge, LA. 96pp.

Fitzsimmons, K. and Carvalho, J. 2000. **Tilapia Aquaculture in the 21st Century: Proceedings of the Fifth**

Fitzsimmons, K. 1997. **Tilapia Aquaculture: Proceedings of the 4th International Symposium on Tilapia in Aquaculture.** Ed. Northeast Regional Agricultural Engineering Service Pub. No. NRAES - 106. Ithaca, N. Y. 808pp.

Selected Book Chapters: (Peer reviewed) out of 16

- Ragab, S., Hassaan, M., Fitzsimmons, K., and El-Haroun, E. 2023. **Chapter 8. Alternative protein sources for sustainable tilapia farming.** pp. 265-299. In: Eds. Hoseinifor, S.H. and Van Doan, H. *Novel Approaches Toward Sustainable Tilapia Culture.* Springer ISBN 978-3-031-38320-5.
- Fitzsimmons, Kevin M. and Shahkar, E. 2017. **Chapter 7. Tilapia–Shrimp Polyculture.** pp. 94-113. In: Perschbacher, P. and Stickney, R. eds. *Tilapia in Intensive Co-culture.* John Wiley.
- Fitzsimmons, K. 2012. Merging the Best of the Green and Blue Revolutions: The Sustainable Food System for the Future. pp. 99-109. In: *Ocean 101: Current Issues and Our Future.* World Ocean Forum, Busan, Korea. ISBN 978-89-954242-92.
- Fitzsimmons, K. and Watanabe, W. (2010). **Chapter 17 (Family: Cichlidae)** pp. 375-397. In: N.R. Le François, M. Jobling, C. Carter and P.U. Blier eds. *Finfish Aquaculture Diversification.* 640pp. C.A.B. International.
- Allen, G., Fielder, S., Fitzsimmons, K., Applebaum, S., and Raizada, S. 2009. **Chapter 36. Inland saline aquaculture.** pp. 1119-1147. In: Burnell, G. and Allen, G. (eds). *New Technologies in Aquaculture.* CRC Press and Woodhead Publishing.
- Fitzsimmons, K. (2006) **Prospect and Potential for Global Production.** pp. 51-72. In: Lim, C and Webster, C., eds. *Tilapia: Biology, Culture, and Nutrition.* CRC Press.
- Watanabe, W. Fitzsimmons, K. and Yang Yi. (2006) **Farming Tilapia in Saline Waters.** pp. 347-447. In: Lim, C and Webster, C., eds. *Tilapia: Biology, Culture, and Nutrition.* CRC Press.
- Fitzsimmons, K. **Tilapia culture.** (2005) pp. 563-590. In: Kelly A.M. and Silverstein, J. eds. *Aquaculture in the 21st Century.* American Fisheries Society, Symposium 46, Bethesda, MD.
- Fitzsimmons, K. 2000. **Tilapia aquaculture in Mexico.** Pp. 171-183 **Future Trends of Tilapia Aquaculture in the Americas.** Pp. 252-264 In: Costa-Pierce, B.A. and J.E. Rakocy, eds. *Tilapia Aquaculture in the Americas, Vol. 2.* World Aquaculture Society, Baton Rouge, La.

Selected refereed professional journal articles out of 70:

- .El-Sayed, A-FM, Fitzsimmons, K. (2023). From Africa to the world—The journey of Nile tilapia. *Rev Aquac.* 2023; 15(Suppl. 1): 6- 21. doi:10.1111/raq.12738
- Ramasamy Harikrishnan, Gunapathy Devi, T Prabhu, Abdel-Wahab A. Abdel-Warith, Elsayed M. Younis, Kevin Fitzsimmons, Ehab El-Haroun, 2023. Immunomodulation of a novel sea weed polysaccharides function feed additive in *Labeo rohita*. *Fish and Shellfish Immunology* .
- Goda, A. M. S., Ahmed, S. R., Nazmi, H. M., Baromh, M. Z., Fitzsimmons, K., Rossi Jr, W., ... & El-Haroun, E. (2020). Partial replacement of dietary soybean meal by high-protein distiller's dried grains (HPDDG) supplemented with protease enzyme for European seabass, *Dicentrarchus labrax* fingerlings. *Aquaculture Nutrition*, 26(3), 842-852.
- Fimbres-Acedo Y.E., Garza-Torres R., Endo M., Servín-Villegas, R., Kevin M. Fitzsimmons, K.M., Emerenciano, M.G., and Magallón-Barajas, F.J. (2019). Performance of *Oreochromis niloticus* in recirculating aquaculture systems at different levels of daily protein intake. *Aquaculture Research*. 1–17.
- Obadao, E., Ani, J., Manyala, J., Ngugi, C., Fitzsimmons, K., Eгна, H. and Raburu, P. (2018). Effects of lysine and methionine supplementation and cost effectiveness in production of Nile tilapia diets (*Oreochromis niloticus*) in western Kenya. *International Journal of Research Science and Management*. 5(3):12-23.
- Pinho, S. M., de Mello, G. L., Fitzsimmons, K. M., & Emerenciano, M. G. C. (2018). Integrated production of fish (pacu *Piaractus mesopotamicus* and red tilapia *Oreochromis* sp.) with two varieties of garnish (scallion and parsley) in aquaponics system. *Aquaculture International*, 26(1), 99-112.
- Aziza, A., El-Wahab, A. A., Wilson, R. P., Hardy, R. W., Tacon, A. J. G., Valente, L. M. P., Fitzsimmons, K.M., & Pinto, I. S. (2017). Complementary responses between hydrolyzed feather meal, fish meal and soybean meal without amino acid supplementation in Nile tilapia *Oreochromis niloticus* diets. *Journal of Applied Sciences*, 19(5), pp-144.
- Yousef S. Al-Hafedh, Aftab Alam, Alejandro H. Buschmann, Kevin M. Fitzsimmons 2012. Experiments on an integrated aquaculture system (seaweeds and marine fish) on the Red Sea coast of Saudi Arabia: efficiency comparison of two local seaweed species for nutrient biofiltration and production. *Reviews in Aquaculture* 4: 1–11.
- Zerai, D.B., Fitzsimmons, K.M., Collier, R.J. and Duff, G.C. 2008. Evaluation of brewer's waste as partial replacement of fish meal protein in Nile Tilapia (*Oreochromis niloticus*) diets. *Journal of the World Aquaculture Society* 39(4):556.564.
- McIntosh, D. and Fitzsimmons, K. 2003. Characterization of effluent from an inland, low-salinity shrimp farm: what contribution could this water make if used for irrigation. *Aquacultural Engineering* 27:147-156.
- Fitzsimmons, K., Dickenson, G., Brand, C., and J. Davis. 1997. Effects of reducing dietary lipid levels on growth of hybrid tilapia in an intensive recirculating water system. *Progressive Fish Culturist* 59:293-296.