

Joe Morris Fox

Birthdate/Birthplace: 7/22/55 Austin, Texas

Citizenship: United States

Address: Department of Life Sciences
Natural Resources Center, NRC-3413
Texas A&M University-Corpus Christi
Corpus Christi, Texas 78411

Phone: 361-825-2463

E-mail: joe.fox@tamucc.edu

Educational Experience

- B.S. Biology/Marine Biology, 1978, Texas State University, San Marcos, Texas
- PhD, Wildlife and Fisheries Sciences, 1992, Texas A&M University-College Station, College Station, Texas

Professional Appointments

- Chair of Marine Resource Development, Harte Research Institute for Gulf of Mexico Studies, Texas A&M University-Corpus Christi (2018)
- Jointly-appointment Professor/Research Scientist, TAMUCC/Texas A&M AgriLife Research (September 1, 2017-present)
- Chair, Department of Life Sciences, Texas A&M University-Corpus Christi, Corpus Christi, Texas (August 1, 2011- August 1, 2015)
- Professor (tenured) of Marine Biology, Fisheries and Mariculture, Texas A&M University-Corpus Christi, Corpus Christi, Texas (2006-current)
- Advisory Panel, Gulf Coast Marine Life Center, Destin, Florida (November, 2014-present).
- Adjunct Graduate Faculty, Texas A&M University-College Station, College Station, Texas (2004-present)
- Ruth Campbell Professor of Marine Biology (2007-2011)
- Visiting Graduate Faculty Member, TAMU-K, Kingsville, Texas (2003-2005)
- Technical Director, Sahlman Seafoods of Nicaragua, Managua, Nicaragua (1996-1998)
- Assistant Professor, The University of Mobile, San Marcos, Nicaragua (1997-1998)
- Technical Director, The Ladex Corporation, Miami, Florida (1989-1995)
- Visiting Research Scientist, Texas Agricultural Experiment Station, Port Aransas, Texas (1995)
- Technical Director, Water Management, Inc., Singapore (1987-1989)
- Subproject Manager, Development Alternatives, Inc., Indonesia (1985-1987)
- Research Associate, Texas Agricultural Experiment Station, Corpus Christi, Texas (1981-1982)

- Research Technician, University of Texas Marine Science Institute Artificial Upwelling Project, U.S. Virgin Islands (1979-1980)

Teaching Experience (22 years)

- A total of 22 years' experience in teaching at two universities, in the areas of aquaculture, environmental science and biology.
- Has prepared and taught the following courses at TAMUCC:
 - Biogeochemistry (ESCI-5314), two sections
 - Aquatic System Design (MARI-5432), six sections
 - Aquatic Animal Nutrition (MARI-5314), 17 sections
 - Aquatic Disease and Parasitology (MARI-515), nine sections
 - Aquaculture Economics/Aquaculture Project Planning (MARI/FAMA-5322), 14 sections
 - Chemistry of Natural Waters (MARI-5421), 10 sections
 - Introductory Environmental Science (ESCI-1401), seven sections
 - Environmental Biology (BIOL-3443) two sections)
 - Crustacean Biology and Culture (BIOL-5590), one section
 - Marine Biology (BIOL-3472), two sections
- Has prepared and taught the following courses at University of Mobile (Alabama):
 - Applied Aquacultural Engineering
 - Agriculture/Aquaculture Project Planning and Development
 - Aquatic Food Processing and Product Quality Control
 - Production Economics in Agriculture
 - Culture of Penaeid Shrimp
 - Introduction to Agribusiness System
 - Aquaculture Nutrition

Graduate Student Service (73 committees: 67 matriculated, 6 in-progress)

- Ph.D. Marine Biology (TAMUCC)
 - Chair
 - I. Jones/McLellan (in progress)
 - Co-chair
 - J. Francis (graduated)
 - A. Bandalon (graduated)
 - Member
 - B. Froeschke (graduated)
 - C. Yu (in progress)
- Ph.D. Coastal and Marine Systems Science
 - Member
 - A. Lima (in progress)
- Ph.D. Wildlife and Fisheries Sciences (TAMU-College Station)
 - Member, graduated
 - R. Gandy, A. Siccardi, D. Sanchez

- Member (in progress)
 - C. de Cruz
- M.S. Fisheries and Mariculture (TAMUCC)
 - Chair/co-Chair (graduated)
 - J. Cohen, S. Bonnot, A. Baker, L. Busch, H. Magaña, Smith, D. Sanchez, R. Robinson, N. Kureshy, T. Gray, K. Williams, S. Walker, A. Siccardi, S. Copeland, K. Copeland, T. Oberding, J. Francis, J. Fricker, C. Robinson, S. Hanson, E. Roman, J. Mishra, M. Wilson, A. Simmons, J. Brister, M. Harisanto, R. Robinson, C. Hairgrove, E. Almeida, L. Adams, S. Maza-Gomez, R. Battle, S. Merryman, R. Gamez, G. Sutton, M. Bolger, M. Syphus, A. McArdle, H. Grand, J. Gilbert, A. Fincannon, I. McLellan, Brown, G. Cottingham
 - Member (graduated)
 - G. Hitzfelder, M. Rabinovich, J. Moeckel, B. Lingenfelter, V. King, N. Huysman, B. Norris, J. Mitchell, M. Gury
 - Chair/Co-Chair (in progress)
 - J. Sifones, K. Hoffman
 - Member (in-progress)
 - A. Chorazyczewski, B. Pearson
- M.S. Biology (TAMUCC)
 - Member (graduated)
 - S. Fagan, E. Williamson, A. Anderson, J. Gardner, K. Klootwyck, G. Ramirez, R. Sealy, M. Savage
- M.S. Environmental Science (TAMUCC)
 - Member (graduated)
 - T. Wauhob
- M.S. Agriculture (TAMUK)
 - Member (graduated)
 - Felix Craff

International-level Service

- Alert Bay Marine Research Society/'Namgis First Nation site visit (fisheries and mariculture), Alert Bay, BC, Canada. Mission to develop fisheries and human health program with 'Namgis First Nation, Alert Bay, BC (July, 2017)
- MOU, collaborative agreement with University of Highland and Islands/Scottish Association of Marine Science, 2016
- Alert Bay Research Society, British Columbia, Canada (initial meetings to develop MOU), 2016
- MOU, TAMUCC and University of Ambon (Indonesia), 2012
- Aquaculture consultant, 1980-present, >20 countries
- Economic development via aquaculture of Chiapas, Mexico (w/Roberto Pardo)
- Speaker, Texas Sea Grant Shrimp Farming Short Course (~24 years, annually)

- Organization of the U.S. Japanese Natural Resources Panel, Harte Research Institute, Texas A&M University-Corpus Christi (2010)
- Site visit, Palau Coral Research Center, Palau Community College (2011)
- International Chamber of Commerce (2011) – meeting with participants from various countries regarding biofuel development
- Site visit, Bogor University (Indonesia) Fisheries Department
- Meeting with members of Catholic University (Chile), 2012
- Fisheries articulation meeting, Bali, Indonesia (2012-2013)

National-level Service

- DOE-BETO Carbon Capture Workshop. Attendee. May 21-22, 2017. Orlando, Florida
- Member, Advisory Panel for Gulf Coast Marine Life Center (Destin, FL)
- Chair, U.S. Aquaculture Society Student Award Committee (2001-2003)
- Panel, USDA Challenge Grants Program (Washington DC) (2002)
- Representative CEIA Program (Washington, DC) (2002)
- Delegate, American Association of Hispanic in Education (San Antonio, Texas) (2006)

University-level Service

- Member, University Faculty P/T Grievance Committee (2016- present)
- Member, NSF-MRI Review Committee (2017-2018)
- Member, University Graduate Enrollment Committee (2013-present)
- Member, Research Hurricane Preparedness Committee (2011 – present)
- Member, College of Graduate Studies Recruitment Committee (2014- present)
- Member, Harte Research Institute Building Committee (2004)
- Member, Diversity Committee
- Member, University Faculty Enhancement Committee
- Member, Eisenhower Grant Awards Committee (2001)

College-level Service

- UAS Field Day, USDA-HSI Program; AgriLife Research & Extension Center, Robstown, Texas
- Member, College P/T Committee (2016-present)
- Vegetable Field Day, Texas A&M AgriLife Research & Extension Center, Weslaco, Texas; May 11, 2017.
- Member, Life Sciences Research/Engineering Building Planning Committee (2014-2015)
- Member, Assessment Coordinator Search (2014)
- Evaluation of Center for Aquaculture Technologies (2014) for MOA with COSE
- Member, Modular Building Committee (2012)
- Chair, College Promotion and Tenure Committee (2009-2011)
- Member, College Promotion and Tenure Committee (2007-2008)
- Space Usage Director, HRI (2009 -2010)

- Director, Seawater Systems, HRI (2005-2010)
- Chair, College Research Enhancement Committee (2005-2006)
- Chair, Workload Release Committee (2005-2006)
- Chair, Safety Committee, University of Mobile, San Marcos, Nicaragua (1997-1998)
- Member, Student Grievance Committee, University of Mobile, San Marcos, Nicaragua (1997-1998)

Department-level Service

- Chair, Search Committee for new Fisheries and Mariculture Program hire (2018)
- Chair, Promotion and Tenure Committee (2016-present)
- Member, LSCI Leadership Council (2016-present)
- Chair, Department of Life Sciences (2011- 2015)
- Chair, Aquaculturist Search (2014)
- Chair, Fisheries Economist Search (2014)
- Chair, Larval Fisheries Search (2014)
- Strategic Planning Meeting with Consultant (2014)
- Island Days (2000, 2002, 2003, 2014, 2015, 2016)
- Member, Policy Advisory Committee, Coastal and Marine Systems Science (2010-2011)
- Chair, MARB Physiologist Search Committee, LSCI (2011)
- Member, FAMA Professional Assistant Professor Search Committee, LSCI (2010)
- Chair, Department of Life Sciences Promotion and Tenure Committee (2009-2011)
- Chair, 3rd-Year Promotion and Tenure Committee (2009-2011).
- Member, Environmental Science Graduate Acceptance Committee (2005)
- Member, Physiologist Search Committee (2004-2005)
- Member, Biologist Search Committee (2004-2005)
- Member, Mariculture Program Review (2004)
- Member, Environmental Science Undergraduate Review Committee (200?)
- Chair Internship (under Grady Price-Blount, 2003)
- Member, Faculty Workload Committee (2002)
- Member, Mariculture Graduate Review Committee (SACS) (2002)
- Member, Biology Undergraduate Review Committee (2001)
- Member, Biology Undergraduate Program SACS Review Committee (2000)
- Member, Chemistry Search Committee (2000)
- Judge, Coastal Bend Science Fair (1999, 2000)
- Organization Committee and Judge, National Ocean Science Bowl (1999)
- Advisor, Undergraduate Environmental Science majors (1999-2003)
- Advisor, Undergraduate Biology majors (1999-2003)
- Member, Eisenhower Grant Funding Committee (1999)
- Member, Biology/Pre-professional Search Committee (1999)
- Member, Mariculture Program Graduate Admissions Committee (1998-present)

Community-level Service

- “An introduction to Aquaponics: The production of fish and vegetables in a soil-less environment.” Workshop held at the Texas A&M AgriLife Research and Extension Service Center in Weslaco, Texas, November 7, 2014.
- Member, Water Shore Advisory Committee (2004- 2005)
- University Outreach Program (2000-2001)
- Monitor, National Ocean Science Bowl (2000)
- Judge, Coastal Bend Science Fair (2001)

Service to Industry/Discipline

- Several meetings over past three years with TGLO, TPWD, CCA, Texas Restaurant Association, state legislators, oyster fishing industry, navigation districts, shoreline commissions, county governments to promote oyster aquaculture in Texas. (2014-2017)
- Advisory Committee, Gulf Coast Marine Life Center, Destin, FL (2014-present)
- Reviewer, Journal of the World Aquaculture Society, Aquaculture (2002-2008)
- Chair, Student Funding Committee, World Aquaculture Society (2002-2004)
- Panel Member, USDA Challenge Grants (2002)

Engagement in Multi-disciplinary Strategic Activities (2016-2017)

Texas A&M AgriLife Research & Extension Leadership Program	Two presentations, one for AgriLife, one for COSE
Post-Harvey recovery of the Texas oyster industry	White paper for Rebuild Texas
Regulatory framework, oyster aquaculture industry (Texas)	Legislation
MOU, Texas A&M AgriLife Research/TAMUCC	Strategic alliance meetings
NDA, Texas A&M AgriLife Research, truShrimp	Strategic Alliance
MOU, Texas A&M University-Corpus Christi and Alert Bay Marine Research Society	Strategic Alliance
MOU, Texas A&M University-Corpus Christi and Highlands and Islands Enterprises/Scottish Association of Marine Science	Strategic Alliance
Presentation to truShrimp, Marshall, MN	Shrimp breeding program

Diversity and Internationalization Strategic Activities (2016-2017)

Heading integrated research effort for improvement of salmon fisheries and cultural economic resilience of Namgis First Nation (Alert Bay, British Columbia)	Diversity and Internationalization
Project Director, USDA Hispanic Serving Institution Grant (involves students, 5 academic HSI institutions)	Diversity
Workshop, Binational Perspectives on Gulf of Mexico Sustainability Workshop, San Miguel de Allende, Mexico (RCN CE3SAR Program), March 9-12, 2017	Internationalization and Diversity

Research Interests

Current Projects:

- Department of Energy, DISCOVER-SOT. Development of marine microalgal strains for increased biomass productivity. PI-Michael Huyesmann (Pacific National Laboratory). Texas AgriLife is member of consortium of research labs including NREL and AZCATI.
- Department of Energy, PACE. Producing algae for co-products and energy. PI-Richard Sayre (Los Alamos National Laboratory). Large consortium of multiple national laboratories. Texas AgriLife is member of the consortium.
- Development of oyster aquaculture research along Texas coast (multi-agency project involving Texas General Land Office, Texas Parks and Wildlife, Texas Department of Agriculture, Texas A&M AgriLife Research, and TAMUCC)
- Development of algal turf scrubber technology for use in nutrient cycling, biomass production and bioenergy development (funded by Sandia National Laboratory, Smithsonian Institute)
- Use of marine microalgae as an alternative protein source in aquaculture feeds for finfish and shrimp (funded by Texas A&M AgriLife Research)
- Establishment of Oyster Resource and Recovery Center for Texas coast, facility to be funded by Restore Act Bucket One (project in review by Texas Restore Act Council of Trustees)
- Development of a Center for Sustainable Seafood and Healthy Texas

Has research interests in the following areas:

- Aquatic animal nutrition:
 - use of algae biomass and lipid-extracted algae as nutrient sources
 - essential amino acid requirement of marine penaeid shrimp
 - use of biofloc as a nutrient source for marine penaeid shrimp

- use of extrinsic enzymes (phytase, mannanase, etc.) to improve aquatic animal nutrition
- feeding strategies and bioenergetics of marine finfish
- chemoattraction of shrimp, urchins, lionfish
- development of artificial micro-feeds for larval penaeid shrimp
- Algae biofuels/biomass:
 - nutrient recycling
 - design and management of advanced biomass culture systems
 - use of algae turf scrubbers for nutrient assimilation and bioremediation
- Environmental physiology:
 - ocean acidification (urchins, red drum, spotted seatrout)
 - morphometrics of red drum
 - effect of anthropogenic noise on physiological and nutritional stress of red drum and spotted seatrout
 - effect of salinity on essential amino acid requirement
- Disease/genetics
 - level of infection, active infection of vectors and general etiology of catastrophic diseases (e.g., Taura Syndrome Virus Disease, necrotizing hepatopancreatitis) of cultured marine penaeid shrimp
 - depuration of *Crassostrea virginica* against *Vibrio vulnificus* using probiotic bacteria;
- Other
 - effect of environmental factors on flavor response of shrimp

Extramural Collaborations

Currently collaborating in research with the following institutions: Texas A&M System (James Abbey, Ron Lacewell, Rick Mertin), Texas A&M University-College Station (Gatlin, DeWitt, Heyman, Davis), Texas AgriLife Research (Landivar, Lawrence, Samocha, Richardson, Fernandez, Foster, Patnaik, Castille; Jifon, Romero, Anciso, McCutchen, Avant, Muntean, Lund); Center for Coastal Studies (Paul Zimba, Kim Withers, James Simons); University of Texas Marine Science Institute (Holt, Villareal); Texas A&M Sea Grant (Balboa, Cummins, Miget); Texas Parks and Wildlife (Robinson, Vega, Walker, Juan, Adami), Auburn University, (Davis, Walton), University of Arizona (Lightner), University of Florida (Lawrence), University of Alabama-Birmingham (Watts), Tufts University (Alcivar-Warren), Louisiana State University (Caprio, Stickle), Nicholls State University (Benson, Kilgen, Lee), Clarkson University (Bonner, Fuller), University of Texas Marine Science Institute (Holt, Dunton), University of Southern Maine (Levine), University of South Florida (Lawrence), University of W. Florida (Pomory), Mote Marine Laboratory (Wetzel, Robinson), Nature Conservancy (Brenner), Poultry Science, TAMUCS (Caldwell), NOAA (James Morris, Ken Riley), Harbor Branch (Hanusak), Louisiana Fish and Wildlife (Supan), University of E. Louisiana (Zappi), Sandia National Laboratory (Pate, Lane, Wu, Davis), Lawrence Livermore National Laboratory (Mayali), Sapphire Energy (Behnke), Scottish Association for Marine Science (Collier, Stanley).

Related Professional Skills

Substantial experience in the following disciplines: analytical instrumentation (HPLC, CN analyzer, ICP, GC, bomb calorimeter), design and construction of aquatic animal research systems, feed formulation, mass culture of marine micro- and macroalgae; sensory evaluation of flavor in shrimp; HACCP (seafood processing plants), antagonism/sensitivity testing of bacteria, computer-aided design (CAD), construction and management of aquaculture hatcheries, processing plants, and farms; web-site design; fluency in Spanish and conversant in Indonesian and Portuguese.

Publications

- Fox, J.** and P. Zimba. 2018. Microalgal minerals and trace elements. In; *Microalgae in health and disease prevention*, Levine, I. and Fleurence, J., Eds. Academic Press. 368 pages.
- Fincannon, A., Vega, R., Gatlin, D., **Fox, J.** and B. Sterba-Boatwright. Effects of stocking density and feed rate on the growth of hatchery-reared juvenile spotted seatrout, *Cynoscion nebulosus*. In review (Aquaculture).
- Sanchez, D.R., **Fox, J.M.**, Gatlin, D.M. and A.L. Lawrence. 2014. Dietary effect of fish oil and soybean lecithin on growth and survival of juvenile *Litopenaeus vannamei* in the presence or absence of phytoplankton in an indoor system. *Aquaculture Research*, 45: 1367-1379.
- Sanchez, D.R., **Fox, J.M.**, Gatlin, D. And A.L. Lawrence. 2012. Dietary effect of fish oil and soybean lecithin on growth and survival of juvenile *Litopenaeus vannamei* in the presence or absence of phytoplankton in an indoor system. *Aquaculture Research*, 1-13.
- Spiga, I. Fox, J. and R. Benson. 2012. Potential effects of long-term exposure to boat noise on the growth, survival, and nutrient retention in juvenile fish. In: *The Effect of Noise on Aquatic Life.*, A.N. Popper and A. Hawkins (eds.). Springer Science+Business Media, New York, New York, pgs 251-253.
- Spiga, I. **Fox, J.** and R. Benson. 2012. Effects of short-and long-term exposure to boat noise on cortisol levels in juvenile fish. In: *The Effect of Noise on Aquatic Life.*, A.N. Popper and A. Hawkins (eds.). Springer Science+Business Media, New York, New York, pgs 251-253.
- Fox, J.M.**, Hume, M., Davis, D.A. and A.L. Lawrence. 2011. Evaluation of methionine supplements and their use in grain-based feeds for *Litopenaeus vannamei*. *Journal of the World Aquaculture Society*, 42(5): 676-686.
- Sanchez, D.R., **Fox, J.M.**, Lawrence, A.L. and D. Gatlin III. 2011. Dietary effect of squid and fish meals on growth and survival of Pacific white shrimp *Litopenaeus vannamei* in the presence or absence of phytoplankton in an indoor tank system. *J. Aquaculture Nutrition* 1-11 (early view: doi:10.1111/j.1365-2109.2011.02997.x.)
- Fox J.**, Lawrence, A.L., Patnaik, S., Forster, I., Ju, Z. and W. Dominy. 2010a. Methionine requirements estimated for white shrimp. *Global Aquaculture Advocate* 13(2):29-30.
- Fox, J.**, Lawrence, A., Patnaik, S., Forster, I., Ju, Z. and W Dominy. 2010b. Estimation

- of feed level of methionine by *Litopenaeus vannamei* (Boone) using covalently-attached and crystalline sources in low-protein semi-purified diets. In Cruz-Suarez, D Ricque-Marie, M Tapia-Salazar, MG Nieto-Lopez, DA Villarreal-Cavazos, J Gamboa-Delgado (eds.) Proceedings of the X Simposio Internacional de Nutricion Acuicola, Monterrey, Mexico. pp 233-250
- Powell, M.L. Jones, W.T., Gibbs, V.K., Hammer, H.S., Lawrence, J.M., **Fox, J.**, Lawrence, A.L. and S.A. Watts (2010). Dietary copper affects survival, growth and reproduction in the sea urchin *Lytechinus variegatus*. Journal of Shellfish Research 29(4): 1043-1049.
- Jones, W.T., Powell, M. L., Gibbs, V.K., Hammer, H.S., Watts, S.A., Lawrence, J.M., **Fox, J.M.**, and A.L. Lawrence. 2010. The effect of dietary selenium on weight gain and gonad production in the sea urchin, *Lytechinus variegatus*. Journal of the World Aquaculture Society 41(5): 675-686.
- Fox, J.M.**, and Lawrence, A.L. 2009. Evaluation of in vitro apparent protein digestibility by shrimp using gut enzyme extracts. Journal of the World Aquaculture Society 40(3): 325-336.
- Spiga, I., **Fox, J.M.** and R. Benson. 2011. Effects of short- and long-term exposure to boat noise on cortisol levels in juvenile fish. In: The effects of noise on life, J. Popper and A. Hawkins, Eds. Advances in experimental medicine and biology. Proceedings, 4th Annual International Conference on Bioacoustics. Cork, Ireland. 880 pp.
- Spiga, I., **Fox, J.M.** and R. Benson. 2011. Potential effects of long-term exposure to boat noise on the growth, survival, and nutrient retention in juvenile fish. In: The effects of noise on life, J. Popper and A. Hawkins, Eds. Advances in experimental medicine and biology. Proceedings, 4th Annual International Conference on Bioacoustics. Cork, Ireland. 880 pp.
- Deng D.F., Ju, Z.Y., Dominy, W., Lawrence, A.L., Patnaik S., and **J.M. Fox**. 2010. Methionine supplement form affects feed leaching but not shrimp growth. Global Aquaculture Advocate 13(4): 40-41.
- Fox, J.M.**, Lawrence, A.L. and Chan, E.L. 2009. Tail muscle free amino acid concentration of Pacific white shrimp, *Litopenaeus vannamei* fed protein bound versus crystalline amino acids 40(2): 171-181.
- Fox, J.M.** and Lawrence, A.L. 2008. A review of the methodology used for determination of apparent nutrient digestibility in marine penaeid shrimp. In: Manual of methodologies for determination of in vivo and in vitro digestibility of ingredients and diets for shrimp (Eds: L.E. Cruz-Suarez, H.V. Colmenares, M.T. Salazar, M.G. Nieto-Lopez, D.A. Villarreal-Cavazos, D. Ricque-Marie. Universidad Autonoma de Nuevo Leon, Monterrey, Nuevo Leon, Mexico (ISBN 978-607-433-020-5, pp 1-17.
- Fox, J.M.**, Davis, D.A., Lawrence, A.L. 2007. Methionine, sulfur-containing amino acids: Limiting nutrients in commercial formulations? Global Aquaculture Advocate March/April, 2007: 74-77.

- Gandy, R.L., Samocha, T.M., Masser, M.P., **Fox, J.M.**, Ali, A.S., Gatlin III, D.M., Speed, M., Walker, S.J., Hawkins, D.L., Hicks, D.W., Lawrence, A.L., Brister, J.E. 2007. The effect of unilateral eyestalk ablation and diet on the reproductive performance of wild-caught *Farfantepenaeus aztecus* (Ives, 1891) using a closed recirculating maturation system. *Aquaculture Research* 38(6):580-587.
- Walker, S.J., Hawkins, D.L., Hicks, D.W., Lawrence, A.L., Brister, J.E., **Fox, J.M.**, Bray, W.A. The effects of experimental protocol in biasing feeding behavior in Pacific white shrimp, *Litopenaeus vannamei*: an extension of the Bradley-Terry model. *Journal of Shellfish Research* (submitted for publication).
- Fox, J.M.**, Davis, D.A., Humes, M., and A.L. Lawrence. 2006. Current status of amino acid requirement research with marine penaeid shrimp. *Avances en Nutricion Acuicola VIII, Simposio Internacional de Nutricion Acuicola*. Noviembre 15-17, Mazatlan, Sinaloa, Mexico, pp.
- Siccardi, A.J., Lawrence, A.L., Gatlin III, D., **Fox, J.M.**, Perez-Velasquez, M., and M. Gonzalez-Felix. 2006. Digestibilidad aparente de proteina, energia y materia seca de ingredientes utilizados en alimentos balanceados para el camaron blanco del Pacifico *Litopenaeus vannamei*. *Avances en Nutricion Acuicola VIII, Simposio Internacional de Nutricion Acuicola*. Noviembre 15-17, Mazatlan, Sinaloa, Mexico, pp. 213-237.
- Siccardi, A.J., Lawrence, A.L., Gatlin III, D., **Fox, J.M.**, Perez-Velasquez, M., and M. Gonzalez-Felix. 2006. Requerimientos de proteina y energia digerible para crecimiento y mantenimiento de subadultos de *Litopenaeus vannamei*. *Avances en Nutricion Acuicola VIII, Simposio Internacional de Nutricion Acuicola*. Noviembre 15-17, Mazatlan, Sinaloa, Mexico, pp. 238-281.
- Hitzfelder, G.M., G.J. Holt, **J.M. Fox**, and D.A. McKee. 2006. The effect of rearing density on growth and survival of cobia *Rachycentron canadum* larvae in a recirculating aquaculture system. *J. World Aquacult. Soc.* 37:204-209.
- Fox, J.M.**, 2006. *Litopenaeus vannamei*. In: *Aquaculture Compendium*. Wallingford, UK: CAB International.
- Miget, R.J., **Fox, J.M.**, Haddadian, F., Billiot, E., 2005. Sensory and chemical assessment of wild harvest and pond raised shrimp. Final report to the Gulf and South Atlantic Fisheries Foundation, Tampa, Florida, 27 pgs.
- Fox, J.M.**, Lawrence, A.L., Walker, S., 2004. Role of chemoattraction in aquatic feed management. *Global Aquaculture Advocate*, 7(5): 70-72.
- Fox, J.M.**, Lawrence, A.L., 2004. Protein: energy ratio: research in penaeid shrimp nutrition. *Global Aquaculture Advocate*, 7(4):74-75.
- Sanchez, D.R., **Fox, J.M.**, Lawrence, A.L., Castille, F.L., Dunsford, B.A., 2004. Methodology for evaluation of dietary feeding stimulants for the Pacific white shrimp, *Litopenaeus vannamei*. *Journal of the World Aquaculture Society*, 36(1):14-23.
- Cohen, J.M., Samocha, T.M., **Fox, J.M.**, Gandy, R.L., Lawrence, A.L. 2004. Production of juvenile Pacific white shrimp *Litopenaeus vannamei* in intensive indoor nursery raceways under biosecure and limited water discharge conditions. *Aquacultural Engineering* 32:425-442.

- Robinson, C.B., Samocha, T.M., **Fox, J.M.**, Gandy, R.L, McKee, D.A., 2004. Replacement of live microalgae, *Chaetoceros muelleri*, and live *Artemia* sp. nauplii in the larval rearing of the brown shrimp, *Farfantepenaeus aztecus*. *Aquaculture*, 245 (1-4):135-147.
- Fox, J.M.**, Lawrence, A.L., Smith, F., 2004. Development of a fishmeal substitute-feed for growth and survival of *Litopenaeus vannamei*. Proceedings of Avances en Nutrición Acuícola VII, November 16-19, Hermosillo, Mexico.
- Lawrence, A.L., Walker, S., Brister, J., Hicks, D., Bray, W., **Fox, J.M.**, 2004. Shrimp chemoattraction and feeding stimulation methods: progress and significance. Proceedings of Avances en Nutrición Acuícola VII, November 16-19, Hermosillo, Mexico.
- Fox, J.M.**, Treece, G.D., and Sanchez, D.R.. 2001. Shrimp nutrition and feed management. In: Methods for improving shrimp farming in Central America; Haws, M.C. and Boyd, C.E. (Eds.). UCA Press, Managua, Nicaragua, 292 pp.
- Fox, J.M.** 2000. Eyestalk ablation. In: Encyclopedia of Aquaculture (Editor: Robert Stickney), John Wiley and Sons, 400 pp.
- Fox, J.M.**, Li-Chan, E., and Lawrence, A.L., 1995. Carbodiimide-mediated covalent attachment of lysine to wheat gluten and its apparent digestibility by penaeid shrimp. *J. Food Agric. Biochem.* 43:733-737.
- Fox, J.M.**, Lawrence, A.L., and Li-Chan, E., 1995. Dietary requirement for lysine by juvenile *Penaeus vannamei* using intact and free amino acid sources. *Aquaculture* 131: 279-290.
- Treece, G.D. and **Fox, J.M.**, 1993. Design, operation and training manual for an intensive culture shrimp hatchery. Texas A&M Sea Grant College Program Publication TAMU-SG- 93-505, 187 pp.
- Fox, J.M.** 1992. Apparent lysine requirement of *Penaeus vannamei*: Evaluations using intact and free amino sources. PhD Dissertation, Texas A&M University, College Station, Texas, 187 pp.
- Akiyama, D. and **Fox, J.M.**, 1988. Soybean utilization in marine penaeid shrimp diets. *J. World Aquacult. Soc.*, 17:231-245.
- Fox, J.** and Chauvin, A., 1988. Oyster depuration in a closed, recirculating system. Proceedings, Oceans '88, Baltimore, Maryland, October 31 – November 2, 1988, 4:1536-1539.
- Treece, G. and **Fox, J.M.**, 1987. The establishment of a successful *Penaeus monodon* hatchery in Jepara, Central Java. *J. World Maricult. Soc.* 16:117-124.
- Fox, J.**, 1987. Shrimp hatchery management and construction with an emphasis on Indonesia and *Penaeus monodon*. Gajah Mada Press, Yogyakarta, Indonesia, 350 pp.
- Fox, J.** 1986. Perspectives in live larval food for penaeid shrimp hatcheries. Proceedings of the 2nd Annual Indonesian Hatchery Workshop. BBAP Press, Jepara, Central Java, January 22, 1986.
- Fox, J.** 1983. Intensive algal culture techniques. In: Handbook of Mariculture – Vol. I: Crustacean Aquaculture, McVey, J.P. (editor). CRC Press Inc., Cleveland, Ohio, 442 pp.

- McVey, J.P. and **Fox, J.M.**, 1983. Hatchery techniques for penaeid shrimp utilized by Texas A&M – NMFS Galveston Laboratory Program. In: Handbook of Mariculture – Vol. I: Crustacean Aquaculture, McVey, J.P. (editor). CRC Press, Inc., Cleveland, Ohio, 442 pp.
- Lawrence, A.L., Fox, J.M., and Castille, F.J., 1981. Decreased toxicity of divalent cations to shrimp nauplii (*Penaeus stylirostris*) in the presence of EDTA. J. World Maricult. Soc., 12 (1):271-280.
- Johns, M., Griffin, W., Lawrence, A., and Fox, J.M., 1981. Budget analysis of a shrimp hatchery unit. J. World Maricult. Soc., 12(2): 305-321.
- Wilkenfeld, J.S., Fox, J.M., and Lawrence, A.L., 1981. Consumption of frozen and live *Artemia* by protozoa of *Penaeus setiferus*. J. World Maricult. Soc., 12(2): 250-259.

Patents/Licenses

Multi-dimensional Algal Growth Surfaces, Systems, and Uses Thereof. Provisional Patent No.: 62/578,025.

Presentations/Conference Abstracts (since 2001)

- Fox, J.M.**, Jones, I., Siccardi III, A., and LeBlanc, A. Preliminary evaluation of Feedkind Aqua Protein™ as a protein source in diets fed to juvenile *Litopenaeus vannamei*. Aquaculture America. Paris Hotel, Las Vegas, Nevada. February 19-22, 2018.
- Mitchell, J., Scarpa, J., **Fox, J.**, Huysman, N., and Pate, R. Optimization of algal turf scrubbers for large-scale superintensive aquaculture. Aquaculture America. Paris Hotel, Las Vegas, Nevada. February 19-22, 2018.
- Fox, J.**, Scarpa, J. Oyster resource and recovery center - Palacios, Texas, Coastal Conservation Association, Houston, Texas, April, 2017.
- Fox, J.**, Scarpa, J. Oyster resource and recovery center - Palacios, Texas, Coastal Conservation Association, Houston, Texas, April, 2017.
- Siccardi III, A., Mitchell, J.M., Huysman, N.D., Davis, R.W., Pate, R.C., **Fox, J.M.**, Scarpa, J., Richardson, C.M., Crockett, J.K., and Calahan, S. 2017. Optimization of algal turf scrubbers for biomass production and nutrient utilization. Electronic conference proceedings (abstract) presented at the Algal Biomass Summit, Salt Lake City, Utah, October, 2017.
- Jones-McClellan, I.C., Siccardi III, A.J., Gatlin II, D.M., **Fox, J.M.**, Huysman, N., Jones, C.W. Evaluation of marine microalgae biomass for protein replacement in aquaculture feeds. Annual meeting of the World Aquaculture Society (Aquaculture America 2017). San Antonio, TX. February 19-22, 2017
- Mitchell, J., Scarpa, J., **Fox, J.**, Huysman, N., Pate, R., Zivojnovich, M., Calahan, D., Siccardi III, A. Optimization of algal turf scrubbers for large-scale super-intensive aquaculture. Annual meeting of the World Aquaculture Society (Aquaculture America 2017). San Antonio, TX. February 19-22, 2017.

- Norris, B., Vega, R., **Fox, J.**, Siccardi III, A. Effects of pH and salinity on juvenile hatchery-reared red drum (*Sciaenops ocellatus*). Annual meeting of the World Aquaculture Society (Aquaculture America 2017). San Antonio, TX. February 19-22, 2017.
- Fox, J.**, Siccardi III, A., Gatlin III, D., Browdy, C. Microalgae biomass in aquaculture feeds - a roadmap to commercialization. Annual meeting of the World Aquaculture Society (Aquaculture America 2017). San Antonio, TX. February 19-22, 2017.
- Fox, J.M.** Texas AgriLife Mariculture Program. Texas A&M AgriLife Leadership Program (Corpus Christi Center/TAMUCC).
- Fox, J.M.**, Siccardi, A.J., and D.M. Gatlin. 2017. Roadmap to use of marine microalgae in aquaculture feeds. U.S. Aquaculture Society-Aquaculture America, February 3-6, San Antonio Marriott Riverwalk Hotel, San Antonio, Texas
- Fox, J.M.** 2016. Joe Fox - Research Experience, Interests. Global Sustainability Workshop. Oban, Scotland, United Kingdom. September 21-23, 2016.
- Fox, J.M.**, Siccardi III, A.J. and D.M. Gatlin III. 2016. Nutrition-based evaluation of algae biomass as feed ingredients for aquaculture. 6th International Conference on Algae Biomass, Biofuels and Bioproducts. Paradise Point Resort, San Diego, CA. June 26-29, 2016.
- Scarpa, J. and **J.M. Fox**. 2016. Oyster culture potential in Texas bays and estuaries. 12th Texas Bays and Estuaries Conference. April 24, 2016. University of Texas Marine Science Institute. Port Aransas, Texas.
- Scarpa, J., **Fox, J.M.** and W. Balboa. 2016. Potential for oyster aquaculture in Texas. Aquaculture 2016. Paris Hotel, Las Vegas, NV. February 26-29, 2016.
- Fox, J.M.** and J. Scarpa. 2016. Oyster Resource and Recovery Center - presentation to Port Lavaca, TX. oyster fishing industry. February 18, 2016. Agriculture Auditorium, Calhoun County Fairgrounds, Port Lavaca, Texas.
- Fox, J.M.** 2016. Oyster Resource and Recovery Center - presentation to Navigation District Commissioners, Matagorda County. January 21, 2016. Port of Palacios Offices. Palacios, Texas.
- Fox, J.M.** and J. Scarpa. 2016. Oyster Resource and Recovery Center - presentation to San Leon, TX. oyster fishing industry. January 8, 2016. Misho's Oysters, San Leon, Texas.
- Fox, J.M.** and J. Scarpa. 2015. Oyster Resource and Recovery Center - presentation to Matagorda County oyster fishing industry. December 22, 2015. Matagorda County Office Building, Bay City, Texas.
- Fox, J.M. and D.M. Gatlin III.** Mariculture and fisheries research capacity (AgriLife/TAMUCC). For Alltech, Inc. Texas A&M AgriLife Research Corporate. College Station, Texas. October 7, 2015.
- Fox, J.M.** Mariculture and Fisheries Research (AgriLife/TAMUCC). For Vice-Chancellor Hussey. Texas A&M AgriLife Research and Extension Service Center, Robstown, Texas. September 24, 2015.
- Fox, J.M.** Status of world mariculture - AgriLife/TAMUCC. Texas A&M AgriLife Research (Corporate) for Finnistere Investment Group. August 18, 2015. College Station, Texas.

- Fox, J.M.** 2015. Summary of joint research activities between TAMUCC and Texas AgriLife Research. Presentation to TAMUS. April, 7, 2015. Texas AgriLife Research and Extension Center, Robstown, Texas.
- Fuqua, Z., Huysman, N., Zimba, P., **Fox, J.**, Lane, T., Davis, R., Richardson, C., and A. Siccardi III. 2015. Comparison of struvite based nutrient formulation and three traditional nutrient formulations having varying N:P ratios for the production of microalgae. Aquaculture America – 2015, February 19-22, Marriott Hotel, New Orleans, LA.
- Huysman, N., Fuqua, Z., Zimba, P., **Fox, J.**, Lane, T., Davis, R., Richardson, C., and A. Siccardi III. 2015. Utilization of struvite to replace traditionally used nutrients for algal cultures grown in outdoor raceways. Aquaculture America – 2015, February 19-22, Marriott Hotel, New Orleans, LA.
- Fox, J.M.** 2014. Presentation to Gov. of Louisiana (Jindale) on Restore Act funding for Plaquemines Parish, LA. Governor's Mansion, Baton Rouge, November 17, 2014.
- Fox, J.M.** 2014. Aquaponics and its benefits to beginning farmers in the Lower Rio Grande Valley. Fall Seminar Series, Texas A&M AgriLife Research and Extension Center, Robstown, TX. October 6, 2014.
- Fox, J.M.** 2013. Summary of research activities at TAMUCC. Gulf Coast Marine Life Center meeting, November 12, 2013, Destin, Florida.
- Fox, J.M.**, Lawrence, A.L., Lemme, A. and S. Patnaik. 2012. Effect of methionine source and dietary inclusion level on growth and survival of juvenile *Litopenaeus vannamei*. Aquaculture America Conference, Feb. 28 – Mar 3, 2012, Le Paris Hotel, Las Vegas, Nevada.
- Fox, J.M.**, Lawrence, A.L. and P.V. Zimba. 2011. The use of algae co-products as feed ingredients in aquaculture feeds. Aquaculture America 2011 – aquaculture on parade. February 28 - March 3. New Orleans Marriott, New Orleans, Louisiana.
- Fox, J.M.**, Lawrence, A.L., Patnaik, S. 2011. Apparent dry matter, protein and energy digestibility of wheat products fed to the Pacific white shrimp, *Litopenaeus vannamei*. Aquaculture America 2011 – aquaculture on parade. February 28 - March 3. New Orleans Marriott, New Orleans, Louisiana.
- Fox, J.M.**, Lawrence, A.L., Patnaik, S. 2011. Apparent dry matter, protein and energy digestibility of corn products fed to the Pacific white shrimp, *Litopenaeus vannamei*. Aquaculture America 2011 – aquaculture on parade. February 28 - March 3. New Orleans Marriott, New Orleans, Louisiana.
- Bolger, M., **Fox, J.M.**, Vega, R., McKee, D. and I. Khan. 2011. Retention of tags and associated stress in the post-release survival of hatchery-reared juvenile spotted seatrout *Cynoscion nebulosus*. Aquaculture America 2011 – aquaculture on parade. February 28 - March 3. New Orleans Marriott, New Orleans, Louisiana.
- Battle, P.R., Craig, S.R., **Fox, J.M.** and G.J. Holt. Novel live prey enrichments for improved growth in marine fish larvae. Aquaculture America 2011 – aquaculture on parade. February 28 - March 3. New Orleans Marriott, New Orleans, Louisiana.
- Spiga, I., **Fox J.M.**, Benson R. and R. Thomas. 2010. The effect of short and long-term exposure to boat noise on cortisol levels in red drum, *Sciaenops ocellatus* and spotted seatrout, *Cynoscion nebulosus*. Second International Conference on the Effects of Noise on Aquatic Life, August 15-20, 2010. Cork, Ireland.

- Spiga, I., **Fox J.M.**, and R. Benson. 2010. The effects of boat noise on growth, survival and nutrient retention of juvenile red drum, *Sciaenops ocellatus* and spotted seatrout, *Cynoscion nebulosus*. Second International Conference on the Effects of Noise on Aquatic Life, August 15-20, 2010. Cork, Ireland.
- Bandalon, A., **Fox, J.M.**, Lawrence, A.L., Lawrence, J.M. and S. Watts. 2009. Effect of feed rate on food consumption by the sea urchin, *Lytechinus variegatus*. World Aquaculture America 2009. February 15-18. Washington State Convention Center, Seattle, Washington.
- Merryman, M.S., **Fox, J.M.**, Neill, W.H. and R. Vega. Preliminary nutritional investigations of the spotted seatrout, *Cynoscion nebulosus*. World Aquaculture America 2009. February 15-18. Washington State Convention Center, Seattle, Washington.
- Klim, B.C., Lawrence, A.L., Patnaik, S., **Fox, J.M.**, Dunsford, B.R. and D.A. McKee. 2009. The effect of prebiotic short chain fructooligosaccharide (scFOS) on the growth, survival, and immune response of adult Pacific white shrimp *Litopenaeus vannamei* under conditions of primary productivity. World Aquaculture America 2009. February 15-18. Washington State Convention Center, Seattle, Washington.
- Fox, J.M.**, Lawrence, A.L., Patnaik, S., Forster, I., Ju, Z., Dominy, W. 2009. Estimation of methionine requirement by juvenile *Litopenaeus vannamei* using protein-bound and crystalline sources. World Aquaculture Society Conference – a blue revolution to feed the world. Sept. 25-29, 2009, World Trade Center, Veracruz, Mexico.
- Fox, J.M.** State of world aquaculture: food for the future? Harte Research Institute Seminar Series. May, 2009.
- Spiga, I., **Fox J.M.**, Benson R., Lawrence, A. and D. McKee 2009. Effects of anthropogenic noise on growth and survival of red drum, *Sciaenops ocellatus* and spotted seatrout, *Cynoscion nebulosus*. World Aquaculture Society Conference – a blue revolution to feed the world, Sept. 25-29. World Trade Center, Veracruz, Mexico.
- Fox, J.M.** 2008. Practical uses of *Sargassum* sp. Sargassum Symposium. May 12-14, 2008, Holiday Inn Sea Spray, Corpus Christi, Texas, USA.
- Almeida, R.L., A.L. Lawrence, **J. M. Fox** and D.R. Sánchez. 2007. Development of field methodology for evaluating chemoattractants and feed stimulants in commercial feeds for the Pacific white shrimp (*Litopenaeus vannamei*). World Aquaculture Society Conference, Feb. 26-Mar. 2, 2007, San Antonio, Texas.
- Briggs, B., **J.M. Fox**, R. Adami, Y.S. Juan, K. Hasson, P. Varner and A.L. Lawrence. 2007. A report on environmental presence of catastrophic shrimp viruses and necrotizing hepatopancreatitis in south Texas shrimp farms and other environs, post-2004. World Aquaculture Society Conference, Feb. 26-Mar. 2, 2007, San Antonio, Texas.
- Fox, J.M.** 2007. Shrimp pond production. Texas Sea Grant Shrimp Farming Shortcourse. Sep. 10, 2007. University of Texas Marine Science Institute, Port Aransas Marine Laboratory, Port Aransas, Texas.
- Fox, J.M.** 2007. The fishmeal dilemma. Harte Research Institute for Gulf of Mexico Studies Seminar Series. Harte Research Institute, Texas A&M University-Corpus Christi, Corpus Christi, Texas, October 25, 2007.

- Fox, J. M.**, J.C. Hairgrove, A.J. Siccardi III, A.L. Lawrence and D.A. Davis. 2007. Nutrient availability of soybean meal, wheat middlings and rice bran in shrimp feeds using commercial sources of phytase. World Aquaculture Society Conference, Feb. 26-Mar. 2, 2007, San Antonio, Texas.
- Fox, J.M.**, A. Soedjarwo and J. Boomgard. 2007. Sustainable aquaculture: the use of simple, appropriate technology for the culture of marine penaeid shrimp—an Indonesian story. World Aquaculture Society Conference, Feb. 26-Mar. 2, 2007, San Antonio, Texas.
- Fox, J.M.**, D.A. Davis, M. Wilson and A.L. Lawrence. 2007. An update on amino acid requirement research with marine penaeid shrimp. World Aquaculture Society Conference, Feb. 26-Mar. 2, 2007, San Antonio, Texas.
- Morris, T.C., T.M. Samocha, D.A. Davis, R.A. Bullis, S.Patnaik, Y. Yiu, J.J. Austin, **J.M. Fox** and R.V. Almeida. 2007. Optimization of cholesterol levels and evaluation of potential use of phytosterol as a cholesterol substitute in plant-based, fishmeal-free practical diets for *Litopenaeus vannamei*. World Aquaculture Society Conference, Feb. 26-Mar. 2, 2007, San Antonio, Texas.
- Morris, T.C., T.M. Samocha, D.A. Davis, R.A. Bullis, S.Patnaik, Y. Yiu, J.J. Austin, **J.M. Fox** and R.V. Almeida. 2007. Comparison of grape extract and squid liver meal as potential attractants in plant-based, fishmeal-free practical feeds for *Litopenaeus vannamei*. World Aquaculture Society Conference, Feb. 26-Mar. 2, 2007, San Antonio, Texas.
- Simmons, A.D., **J.M. Fox**, A.J. Siccardi III, A.L. Lawrence, S.Patnaik and M.A. Wilson. 2007. Apparent digestibility of selected minerals from purified and semi-purified feed ingredients offered to marine penaeid shrimp, *Litopenaeus vannamei*. World Aquaculture Society Conference, Feb. 26-Mar. 2, 2007, San Antonio, Texas.
- Wilson, M., **J.M. Fox**, D.A. Davis, K. Withers and A.L. Lawrence. 2007. Apparent digestibility and leaching characteristics of mineral-bound and polymeric forms of synthetic methionine incorporated into practical shrimp feeds. World Aquaculture Society Conference, Feb. 26-Mar. 2, 2007, San Antonio, Texas.
- D. Allen Davis, **Joe M. Fox**, David Smith. Reducing feed costs without compromising nutrition. World Aquaculture Society Conference, Firenza (Florence), Italy, May 8-11, 2006.
- Joe M. Fox**, John C. Hairgrove, Anthony J. Siccardi III, Addison L. Lawrence, D. Allen Davis, Frank L. Castille. 2006. Phosphorus, zinc, protein and amino acid digestibility of Pacific white shrimp, *Litopenaeus vannamei*, fed grain-based feeds. 2006. World Aquaculture Society Conference, Las Vegas, Nevada, January 21-25.
- Joe M. Fox**, John C. Hairgrove, Anthony J. Siccardi III, Addison L. Lawrence, D. Allen Davis, Frank L. Castille. 2006. Growth and survival of Pacific white shrimp, *Litopenaeus vannamei*, fed grain-based feeds. 2006. World Aquaculture Society Conference, Las Vegas, Nevada, January 21-25.
- Anthony J. Siccardi III, Addison L. Lawrence, Delbert M. Gatlin III, Frank L. Castille, **Joe M. Fox**. 2006. Apparent dry matter and energy digestibility of ingredients for Pacific white shrimp, *Litopenaeus vannamei*. World Aquaculture Society Conference, Las Vegas, Nevada, January 21-25.

- Anthony J. Siccardi III, Addison L. Lawrence, Delbert M. Gatlin III, Frank L. Castille and **J.M. Fox**. 2006. Apparent dry matter and protein digestibility of ingredients for Pacific white shrimp, *Litopenaeus vannamei* diets. World Aquaculture Society Conference, Las Vegas, Nevada, January 21-25.
- Anthony J. Siccardi III, Addison L. Lawrence, Delbert M. Gatlin III, Frank L. Castille, **Joe M. Fox**. 2006. Digestible protein and energy requirements for growth and maintenance of sub-adult Pacific white shrimp, *Litopenaeus vannamei*. World Aquaculture Society Conference, Las Vegas, Nevada, January 21-25.
- Joe M. Fox**, Addison L. Lawrence, D. Allen Davis, Denis Ricque-Marie, Elizabeth Cruz Suarez, Anthony J. Siccardi III, Tzachi M. Samocha. 2005. Current status of phytase research on marine penaeid shrimp. World Aquaculture Society Conference in Nusa Dua, Bali, Indonesia; May 9-13.
- D. Allen Davis, David M Smith, **Joe Fox**, and K. Shunsuke. 2005. The current status of nutrient requirements and availability data for marine penaeid shrimp. World Aquaculture Society Conference in Nusa Dua, Bali, Indonesia; May 9-13.
- Lawrence, A.L., **Fox, J.M.**, Gaines, K., Gregg, K., Varner, P., Hasson, K., Juang, Y.S., Adame, R., Bray, W.A., Lotz, J.M., Lightner, D.V., Treece, G., Reisinger, T., Larkin, P., Moury, D., Alcivar-Warren, A., Ostrowski, A.C., 2005. TSV in Texas during 2004: summary of a collaborative program involving commercial shrimp farms, state and federal institutions/agencies, 2005. Aquaculture 2005, New Orleans, Louisiana, January 17-20, 2005.
- Gaines, K., **Fox, J.M.**, Lawrence, A.L., Hasson, K., Varner, T., Lightner, D.V., Larkin, P., Gregg, K., Mott, J.B. 2005. A survey of Taura Syndrome Virus intermediate hosts in south Texas shrimp farms. Aquaculture 2005, New Orleans, Louisiana, January 17-20, 2005.
- Hairgrove, J.C., Lawrence, A.L., **Fox, J.M.**, 2005. The effect of pellet water stability on chemoattraction of feeds to the Pacific white shrimp, *Litopenaeus vannamei*. Aquaculture 2005, New Orleans, Louisiana, January 17-20, 2005.
- Samocha, T.M., Patnaik, S., Mishra, J., Brock, D., Harisanto, M., Lawrence A.L., Mott, J.B., Braneky, C., **Fox, J.M.**, 2005. Effect of three commercial shrimp diets (30%-ECO, 31% and 41% crude protein) on selected water quality indicators and performance of *Litopenaeus vannamei* under limited water exchange in membrane-lined ponds. Aquaculture 2005, New Orleans, Louisiana, January 17-20, 2005.
- Fox, J.M.**, Siccardi, A.J., and Lawrence, A.L., 2004. Current status of protein:energy ratio in penaeid shrimp nutrition. Aquaculture 2004, Honolulu, Hawaii, March 1-5, 2004.
- Fox, J.M.**, Lawrence, A.L., Brister, J.E., and Walker, S.J., 2004. Low and reduced impact aquaculture: the role of chemoattraction in aquatic feed management. Aquaculture 2004, Honolulu, Hawaii, March 1-5, 2004.
- Walker, S.J., Brister, J.E., Bray, W.A., **Fox, J.M.**, Hicks, D.W., and Lawrence, A.L., 2004. Evaluation and ranking of practical ingredients as chemoattractants in feeds for Pacific white shrimp, *Litopenaeus vannamei*. Aquaculture 2004, Honolulu, Hawaii, March 1-5, 2004.

- Smith, F., **Fox, J.M.**, and Lawrence, A.L., 2004. Development of a fish meal substitute diet for growth and survival of *Litopenaeus vannamei*. Aquaculture 2004, Honolulu, Hawaii, March 1-5, 2004.
- Siccardi, A.J., **Fox, J.M.**, Lawrence, A.L., Samocha, T.M., and Davis, D.A., 2004. Effect of phytase on phosphorus digestibility and growth of the Pacific white shrimp, *Litopenaeus vannamei*, fed phosphorus-limited feeds.
- Brister, J.E., Walker, S.J., Bray, W.A., **Fox, J.M.**, Hicks, D.W., Lawrence, A.L., and Dunsford, B.R., 2004. A quantitative method of evaluating feed consumption by *Litopenaeus vannamei*, in feed attraction studies. Aquaculture 2004, Honolulu, Hawaii, March 1-5, 2004.
- Gandy, R.L., Samocha, T.M., Masser, M.P., Gatlin, D.M., **Fox, J.M.**, Ali, A.S., Speed, M.F., 2004. Production of *Farfante aztecus* postlarvae under closed recirculating and multiple water reuse conditions.
- Brister, J.E., Walker, S.J., Bray, W.A., **Fox, J.M.**, Hicks, D.W., Lawrence, A.L., and Dunsford, B.R., 2004. A quantitative method of evaluating feed consumption by *Litopenaeus vannamei*, in feed attraction studies. Aquaculture 2004, Honolulu, Hawaii, March 1-5, 2004.
- Francis, J.M., DeWitt, T.J., **Fox, J.M.**, McKee, D.A., and Vega, R.R., 2004. Ecomorphology and trophically-induced phenotypic variation in red drum, *Sciaenops ocellatus*. Aquaculture 2004, Honolulu, Hawaii, March 1-5, 2004.
- Fox, J.M.**, Samocha, T.M., Gandy, R.L., Davis, D.A., McKee, D.A., 2003. Production challenge: aquaculture commercialization of endemic penaeid shrimp. Aquaculture America, Louisville, Kentucky, February 18-21, 2003.
- Fricker, J.T., Samocha, T.M., **Fox, J.M.**, Lehman, R.L., 2003. A comparison of nutrient removal efficiency of *Ulva fasciata* vs. *Gracilaria tikvahiae* in a recirculating shrimp production system using *Litopenaeus vannamei*. Aquaculture America, Louisville, Kentucky, February 18-21, 2003.
- Speegle, J.H., Castille, F.L., Lawrence, A.L., **Fox, J.M.**, 2003. The effects of dietary carnitine on growth and survival of the Pacific white shrimp, *Litopenaeus vannamei*. Aquaculture America, Louisville, Kentucky, February 18-21, 2003.
- Dobbs, M., **Fox, J.M.**, Davis, A., Samocha, T.M., McKee, D.M., 2002. Spawning characteristics and evaluation of early larval rearing of *Callinectes sapidus* (Rathbun) fed live natural diets. Aquaculture America 2002, San Diego, California, January 27-30, 2002.
- Bonnot, C.S., **Fox, J.M.**, Mott, J.B., Samocha, T.M., McKee, D.A., 2002. Evaluation of the depuration of Galveston Bay oysters, *Crassostrea virginica*, against *Vibrio vulnificus* under semi-commercial conditions using probiotic bacteria. Aquaculture America 2002, San Diego, California, January 27-30, 2002.
- Williams, K.R., **Fox, J.M.**, Mott, J.B., Samocha, T.M., 2001. Depuration of Galveston Bay Oysters *Crassostrea virginica* against *Vibrio vulnificus* using probiotic bacteria: a preliminary investigation. Aquaculture America 2002, San Diego, California, January 27-30, 2002.
- Baker, A., Samocha, T.M., **Fox, J.M.**, 2001. Evaluation of oyster (*Crassostrea virginica*) filtration of suspended solids in effluent from closed recirculating shrimp tanks. Aquaculture America 2002, San Diego, California, January 27-30, 2002.

- Roman, E.O., Samocha, T.M., **Fox, J.M.**, Lawrence, A.L. and Siccardi, A.J. III, 2001. Culture of *Litopenaeus vannamei* under limited water exchange using two commercial test diets with 25 and 35% crude protein. Aquaculture America 2002, San Diego, California, January 27-30, 2002.
- Robinson, C.B., Samocha, T.M., Gandy, R.L., Lemmon, L.L., **Fox, J.M.**, 2001. Larval rearing of the brown shrimp, *Farfantepenaeus aztecus*, using complete and 50% replacement of live microalgae and artemia. Aquaculture America 2002, San Diego, California, January 27-30, 2002.
- Fox, J.M.**, Williams, K.R., Mott, J.B., and Samocha, T.M., 2001. Depuration of Galveston Bay Oysters *Crassostrea virginica* against *Vibrio vulnificus* using probiotic bacteria: Progress Report to National Sea Grant College Program. World Aquaculture 2001, January 21-25, Lake Buena Vista, Florida.
- Williams, K.R., **Fox, J.M.**, and Mott, J.B., 2001. Preliminary evaluation of the depuration of Galveston Bay oysters, *Crassostrea virginica*, against *Vibrio vulnificus* using probiotic bacteria: inherent variability of autochthonous levels. World Aquaculture 2001, January 21-25, Lake Buena Vista, Florida.
- Cohen, J.M., Samocha, T.M., Gandy, R.L., Jones, E.R., **Fox, J.M.**, and Lawrence, A.L., 2001. The culture of *Litopenaeus vannamei* under biosecured and zero exchange conditions. World Aquaculture 2001, January 21-25, Lake Buena Vista, Florida.
- Fox, J.M.**, McKee, D.A., Samocha, T.M., Silva, P., Vega, R., Francis, J.M. 2001. A USDA-Texas A&M University-Corpus Christ-sponsored program for enhancing minorities' interests in aquaculture. World Aquaculture Society Meeting, San Diego, California, January-27-30, 2001.
- Dobbs, M., **Fox, J.M.**, Davis, D.A., Samocha, T.M., McKee, D.A. 2002. Spawning characteristics and evaluation of early larval rearing of the blue crab, *Callinectes sapidus*, fed live natural feeds. World Aquaculture Society Meeting, San Diego, California, January-27-30, 2001.
- Oberding, T.M., Dokken, Q.R., Mott, J.B., **Fox, J.M.** 2001. A preliminary survey of coral diseases in the Flower Garden Banks National Marine Sanctuary (Gulf of Mexico) and its relevance to coral culture. World Aquaculture Society Meeting, San Diego, California, January-27-30, 2001.
- Sanchez, D.R., Lawrence, A.L., Castille, F.L., **Fox, J.M.**, Dunsford, B.R. 2001. Methodology for evaluating chemoattractants used in commercial diets for marine penaeid shrimp. World Aquaculture Society Meeting, San Diego, California, January-27-30, 2001.
- Fox, J.M.**, Williams, K., Mott, J., Samocha, T.Z. 2001. Project report on depuration of oysters against *Vibrio vulnificus* using probiotic bacteria. Texas Aquaculture Association meeting. South Padre Island, Texas, February 20-23.

Professional Affiliations

- World Aquaculture Society
- The Nature Conservancy
- Aquacultural Engineering Society
- National Shellfisheries Association
- Coastal Conservation Association

Research Awards (currently funded, pending, completed)

Currently Funded:

- The Texas Oyster Resource and Recovery Center. RESTORE Act (Bucket 1). **Fox, PD.** \$6,600,000 (project in funding process with TCEQ/Dept. of Treasury).
- Chancellor's Research Initiative (CRI). TAMUCC/Texas A&M AgriLife Research. **Fox, Recipient.** \$900,000 plus academic/agency contribution (total = \$2,300,000).
- Experiential training in use of unmanned aerial systems (UAS) for agriculture applications. USDA-NIFA (HSI). **Fox, PD.** \$995,829. July 1, 2016 - June 30, 2020.

Pending funding:

- Rebuilding the Texas Oyster Fishery after Harvey. Federal Fisheries Disaster Declaration Funding (NOAA/State of Texas). 2019. \$750,000 (currently approved by NOAA).
- Exceptional Item. Texas A&M AgriLife Research. \$2M per year, re-occurring (currently in Vice-Chancellor for Agriculture Stover's Office).

Funding-completed:

- Bacterial-algal interactions controlling carbon cycling in bioenergy-producing communities. DOE-OBER Program, Lawrence Livermore National Laboratory. J. Pett-Ridge, PI. 2014-2017. \$1,500,000 (**Fox and Zimba Co-PI** share \$210,000).
- Integrated algal turf scrubber (ATS) aquaculture system: a sustainable, cost-effective solution to meet alternative energy and biomass needs. A. Siccardi, PD (**Fox, Co-PI**). \$95,000. May 23, 2016 - May 22, 2017.
- Leaching florfenicol from commercial aquaculture feeds. Merck Chemical Company. **Joe M. Fox, PI.** 2013, \$37,000. In-progress.
- Evaluation of two sources of methionine feeding at low-feeding-rate. Evonik Degussa (Germany). **Joe M. Fox, Co-PI.** 2013. Sub-award \$14,000. Completed.
- Building the basis for the improvement of microalgae oil production efficiency through quantification and model integration of fundamental biological and physiological processes. Sun Grant Initiative-Southeast Region. **Joe. M. Fox, Co-PI.** Carlos Fernandez, Principal Investigator. 2011-2013. \$160,000. Completed.
- Emerging Technology Funds - State of Texas. Algae biofuels research. Pass-through funding from Texas AgriLife Research. **Joe M. Fox, Co-PI.** 2010 - 2011. \$18,000. Completed.
- Determining methionine requirement in shrimp using novella sources of methionine. Research contract with Evonik Degussa (Germany). **Joe M. Fox, PI.** 2010-2011. \$47,000. Completed.
- Characterization of leaching of Aquaflor™ (florquinone) in shrimp feeds. Intervet (Schering-Plough). **Joe M. Fox, P.I.** 2011. \$14,000 (completed)

- Acquisition of equipment for development of local species of microalgae for production of biofuels. NSF-MRI R². **Joe M. Fox, P.I.**; Co-PIs Zimba, P., Mott, J., Lehman, R., Strychar, K. 11/1/09 - 8/31/12, \$547,905. Completed.
- Shell Bank: An oyster shell recycling program for the Texas Coastal Bend. State of Texas General Land Office, Coastal Management Program. \$166,626; PI (J. Pollack, PI, Co-PI Fox, **J.M. Fox**).
- Shell Bank: an oyster shell reclamation, storage and recycling program for oyster reef restoration. State of Texas General Land Office, Coastal Management Program, PI Paul Montagna, Co-PIs Beseres-Pollack, J., Fox, J. 3/1/2009 - 8/31/2010, \$162,455.
- Purchase of an amino acid analyzer for research and education. National Science Foundation Major Research Instrumentation Grants Program. **Joe M. Fox**(Principal Investigator); September 1, 2006 - August 31, 2009. \$105,000.
- Evaluation of prebiotic molecules for induction of immune response in marine penaeid shrimp. GTC Nutrition, Inc. **Joe M. Fox**, August, 2008 - August, 2009. \$30,000.
- Effect of anthropogenic noise on stress in marine finfish, Texas Research Development Fund, **Joe M. Fox** and Robert Benson (Co-Principal Investigators), 2008, \$34,000.
- Ruth Campbell Fellowship in Marine Biology, **Joe M. Fox** (PI). 2007-2011, \$120,000. Research on methionine requirement in marine penaeid shrimp.
- Novus International, Inc. **Joe M. Fox**, August 2005 - August 2006, \$10,000. Replacement of fish meal in shrimp feeds: I. Determination of methionine requirement by shrimp offered zero fish meal feeds, **Joe M. Fox** (Principal Investigator),
- Texas Research Development Fund, February, 2005 - August, 2005, \$24,374. Daily digestible protein and energy requirements of marine penaeid shrimp, **Joe M. Fox** (Principal Investigator)
- Texas Research Development Fund, March, 2004 -August, 2004, \$20,000.Survey of Taura Syndrome Virus (TSV) in aquaculture ponds and other natural sources in South Texas. USDA/APHIS, January - December, 2005. **Joe M. Fox**, Addison L. Lawrence and Patrick Larkin, \$50,188.
- Chemoattraction in marine penaeid shrimp. Applied Food Biotechnology, Inc. 2000-2005. **Joe M. Fox** and A.L. Lawrence (\$100,000).
- Improved availability of phosphorus in grain-based aquatic feeds via use of phytase. Faculty Enhancement Grant, TAMUCC, **Joe M. Fox**, September 2004 – August, 2004. \$9,820.
- Effect of phytase on increased bioavailability of phosphorus to shrimp in soybean-based feeds. University Faculty Enhancement Grant, **Joe M. Fox**, Sept 2001 - Aug 2002, \$8,900.
- An Experiential Model Enhancing Minorities Interests in Aquaculture. USDA HIS-EGP, Sept 2000 - Oct 2002, **Joe M. Fox** and D.A. McKee, \$161,313.
- Gulf Oyster Industry Initiative evaluation of probiotic bacteria in depuration of oysters against *Vibrio vulnificus*. National Sea Grant. **Joe M. Fox**, Joanna B. Mott and Tzachi M. Samocha., Sept 1999 - Aug 2001, \$165,136.

- Continued optimization of biosecure high density culture of penaeid shrimp. TAMU-CC Faculty Enhancement Grant, **Joe M. Fox** and Tzachi M. Samocha. Sept 1999 - Aug 2000, \$8,640.
- Evaluation of larval rearing methodologies for the blue crab, *Callinectes sapidus*. College of Science and Technology (TAMU-CC) Faculty Enhancement Grant. **Joe M. Fox**, Sept 1999 - August, 2000, \$2,000.
- A proposal to establish a database from commercial scale shellfish depuration plants for the development of a national consumer protection plan, **Joe M. Fox** (Co-principal investigator). National Marine Fisheries Service/Saltonstall-Kennedy Program, FY 1988, (\$129,520).

References

- Dr. Bill McCutchen. Executive Associate Director. Texas A&M AgriLife Research. College Station, Texas. Phone: 979-845-8486. Fax: 979-458-4765. Email: bill.mccutchen@ag.tamu.edu.
- Dr. Larry McKinney. Director, Harte Research Institute, Texas A&M University-Corpus Christi. Phone: 361-825-2000, Fax: 361-825-2050. Email: larry.mckinney@tamucc.edu.
- Dr. Juan Landivar, Professor and Director, Texas AgriLife Research and Extension Center, 10345 State Hwy 44, Corpus Christi, TX 78406-1412. Phone (361) 265-9201, fax (361) 265-9434, e-mail jalandivar@ag.tamu.edu.