

CURRICULUM VITAE

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EDUCATION

B.S. Biology, Bates College, Lewiston Maine, June 1974
M.S. Agricultural Engineering, University of Hawaii, December, 1980
Ph.D. Agricultural Engineering, University of California, Davis, September, 1988

PROFESSIONAL EXPERIENCE

Faculty Advisor for Military Affairs, University of North Carolina, General Administration, Office of the Vice President for Federal Relations, Chapel Hill, North Carolina, May 2010 – Present. Providing the “Point of Contact” within the 16 campus system of the University of North Carolina for the creation and delivery of short-courses and workshops to the US Army Special Operations Command, US Marine Corps Special Operations Command, and US Navy Maritime Civil Affairs and Security Training Command.

Professor, Department of Biological and Agricultural Engineering, North Carolina State University, Raleigh, North Carolina, May 2010 – Present. A tenured faculty position with responsibilities in extension (70%) and research (30%) in aquacultural engineering. Research and extension activities focus on water re-use technology and waste treatment from recirculating freshwater and marine aquaculture production system.

Professor and Department Extension Leader, Department of Biological & Agricultural Engineering, North Carolina State University, Raleigh, North Carolina, July 2006 – 2010. Department Extension Leader is responsible for supervision and support of 9 faculty and more than 24 extension associates and support staff.

Professor, Department of Biological & Agricultural Engineering, North Carolina State University, Raleigh, North Carolina, July 2002 – 2006

Professor, Zoology Department & Biological and Agricultural Engineering Department, North Carolina State University, Raleigh North Carolina, July 1999 – June 2002

Associate Professor, Zoology Department & Biological and Agricultural Engineering Department, North Carolina State University, Raleigh North Carolina, 1994 - June, 1999

Assistant Professor, Zoology Department & Biological and Agricultural Engineering Department, North Carolina State University, Raleigh North Carolina, 1988 - 1994

SCHOLARLY AND PROFESSIONAL HONORS

Member: Gamma Sigma Delta (1987; Honor Society for the Agricultural Sciences)

Member: Academy of Outstanding Faculty Engaged in Extension and Engagement (1994)

Recipient: Epsilon Sigma Phi, State Early-Career Award (1992)

PROFESSIONAL MEMBERSHIPS

World Aquaculture Society

Member 1987 - present

Immediate Past-President, 2001-2002

President, 2000-2001

President-elect, 1999-2000

Secretary, 1992-1993, 1995-1996

Vice President, 1994-1995

Aquacultural Engineering Society

Founding Member 1993 - present

Immediate Past-President, 2000-2001

President, 1999-2000

1st Vice President, 1997-1998

Founding Director, 1993-1997

PEER REVIEWED PUBLICATIONS 2004 – 2010

Guerdat, T.C., Losordo, T.M. Classen, J.J, Osborne, J.A. DeLong, D.P. (accepted for publication). Evaluating the effect of organic carbon on biological filtration performance in a large scale recirculating aquaculture system. *Aquacultural Engineering*.

Guerdat, T.C., Losordo, T.M. Classen, J.J, Osborne, J.A. DeLong, D.P. (2010). A large scale evaluation of commercially available biological filters for recirculating aquaculture systems. *Aquacultural Engineering* (42) 38-49.

Daniels, H.V., W.O. Watanabe, R. Murashige, T. Losordo and C. Dumas. (2010). Chapter 5. Culture of southern flounder, pp. 82-100, In *Practical Flatfish Culture and Stock Enhancement*, H.V. Daniels and W.O. Watanabe, editors. Wiley-Blackwell Publishers, Ames, Iowa. 366 pp.

Losordo, T.M., DeLong, D.P, Guerdat, T.C. (2009). Advances in technology and practice for land-based aquaculture systems: tank-based recirculating systems for finfish production. Chapter 31 in: Burnell, G. and Allen, G (editors), *New technologies in aquaculture: Improving production efficiency, quality and environmental management*. Woodhead Publishing, Ltd, Cambridge, UK.

DeLong, D.P., T.M. Losordo, and J.E. Rakocy. (2009). Tank Culture of Tilapia, SRAC Extension Factsheet #282, USDA Southern Regional Aquaculture Center, Stoneville, MS.

- Li, S.H., Willits, D.H., Browdy, C.L., Timmons, M.B., Losordo, T.M. (2009). Thermal Modeling of Greenhouse Aquaculture Raceway Systems. *Aquacultural Engineering* (41) 1-13. *corresponding author
- Delong, D.P., Losordo, T.M., Rakocy, J.E. (2009) Tank culture of tilapia. United States Department of Agriculture, Southern Regional Aquaculture Center, Revised Publication No. 282.
- Hamlin, H.J., Michaels, J.T., Beaulaton, C.M., Graham, W.F., Dutt, W., Steinbach, P., Losordo, T.M., Schrader, K.K., Main, K.L. (2008). Comparing denitrification rates and carbon sources in commercial scale upflow denitrification biological filters in aquaculture. *Aquacultural Engineering* (38) 79-92.
- Saliling, W.J.B., Westerman, P.W., and Losordo, T.M. (2007). Wood chips and wheat straw as alternative biofilter media for denitrification reactors treating aquaculture and other wastewaters with high nitrate concentrations. *Aquacultural Engineering* 37(3): 222-233.
- Shewmon, L.N., Godwin J.G., Murashige, R., Daniels, H.V., Losordo, T.M., (2007). Environmental Manipulation of Growth and Sexual Maturation in Yellow Perch (*Perca flavescens*). *Journal of the World Aquaculture Society*. 38(3): 383-394.
- Carroll, P.M., Watanabe, W.O., and Losordo, T.M. (2005). Pilot production of hatchery-reared summer flounder *Paralichthys dentatus* in marine recirculating aquaculture systems: The effects of ration level on growth, feed conversion and survival. *Journal of the World Aquaculture Society*. (36) 1: 120-128.
- Losordo, T.M., Ray, L.E. and DeLong, D.P. (2004). Flow through and recirculating systems. Chapter 18 In: Tucker, C. and Hargreaves, J. eds., *The Biology and Culture of Channel Catfish*. Elsevier Scientific, Amsterdam, The Netherlands.

RECENT INVITED INTERNATIONAL SHORT COURSES AND LECTURES

- Losordo, T.M. and T.C. Guerdat. (2010). Recirculating Aquaculture Technology Short-Course. Two-day short course presented in conjunction with the Austral-Asian Aquaculture Conference, Hobart, Tasmania, Australia, May 22 and 23, 2010. (43 persons attended).
- Losordo, T.M. and R.F. Malone. (2008). Recirculating Aquaculture Technology Short-Course. Two-day short course presented in conjunction with the Austral-Asian Aquaculture Conference, Bribie Island, Queensland, Australia, August 4 and 5, 2008. (40 persons attended).
- Losordo, T.M. (2008). Three lectures in: Advanced Course: Recirculation Systems and their applications in aquaculture. Instituto Agronómico Mediterráneo de Zaragoza Apartado 202, 50080 Zaragoza, Spain. March 10 – 14, 2008. (30 students from the Mediterranean region participated).
- Losordo, T.M. (2006). Three 1 hour lectures and one two hour lab presented at AQUALAB, an advanced training course on Design and Operation of Recirculation Technologies held 27 February – 3 March, 2006, at Wageningen University, the Netherlands. This one week course was sponsored by the European Union, taught by an international faculty and attended by doctoral and post-doctoral students. (30 graduate students and post-docs attended).
- Losordo, T.M. (2006). Recirculating Aquaculture Technology Short-Course. Two-day short-course presented in conjunction with the Annual Meeting of the World

- Aquaculture Society and the European Aquaculture Society. May 8 & 9, 2006. Florence, Italy. (50 persons attended)
- Losordo, T.M., and D.P. DeLong. (2006). Recirculating Aquaculture Technology Short-Course. Two-day short-course presented in conjunction with the Annual Meeting of the Asian Pacific Chapter of the World Aquaculture Society. August, 26 & 27, 2006. Adelaide, Australia. (40 persons attended)
- Losordo, T.M. (2005). Critical Considerations in Recirculating Aquaculture Technology. Half-day workshop presented at the Western Institute of Technology, New Plymouth, New Zealand, June 20, 2005. (15 attended)
- Losordo, T.M. (2005). Recirculating Aquaculture Technology Update Workshop. Presented a one-day workshop as part of a two-day workshop on sustainable aquaculture at Deakin University, Warnambool, Victoria, Australia. June 25, 2005. (80 attended)
- Losordo, T.M. (2005). Recirculating Aquaculture Technology Workshop. A two-day workshop presented at Aquaculture Europe, the annual meeting of the European Aquaculture Society, Trondheim, Norway, August 9 & 10, 2005. (70 attended)
- Losordo, T.M. (2005). Recirculating Aquaculture Technology Workshop. A three-day workshop presented for the Korean Aquaculture Society, Pukun National University, Busan, South Korea. December 7, 8 & 9, 2005. (90 attended)
- Losordo, T.M. (2004). Two lectures presented at a one week workshop on recirculating systems and their application in aquaculture. Sponsored by CIHEAM (International center for agronomic studies in Mediterranean), Zaragoza, Spain. Sete, France, January 12 – 16, 2004. (30 attended from Mediterranean and Middle Eastern Countries)
- Losordo, T.M. (2004). Disease Prevention and Control in Intensive Aquaculture Production Systems. Invited presentation at a workshop on disease and disease prevention at Deakin University, Warnambool, Victoria, Australia, June 6 – 7, 2004. (70 persons attended).
- Losordo, T.M. (2004). Recirculating Aquaculture Technology Workshop. A two-day workshop presented for the Aquaculture Centre at the Charles Darwin University, Darwin, Northern Territories, Australia, June 9 – 10, 2004. (50 attended)
- Losordo, T.M., and D.P. DeLong. (2004). Recirculating Aquaculture Technology Workshop. A two-day workshop presented for the Asian Pacific Chapter of the World Aquaculture Society, Sydney, New South Wales, Australia, September 25 - 26, 2004. (95 attended)

RECENT RESEARCH CONFERENCE PRESENTATIONS

- Losordo, T.M., DeLong, Guerdat, T.C. (2010) Recent Developments and Innovative Options for Treating Marine Aquaculture Water and Wastewater. Invited presentation at the Australasian Aquaculture Conference, May 24 - 26, 2010, Hobart, Tasmania, Australia.
- Guerdat, T.C. Losordo, T.M. (2010). Marine Aquaculture Effluent Treatment Systems Design and Operation. Invited presentation at the Australasian Aquaculture Conference, May 24 - 26, 2010. Hobart, Tasmania, Australia.

- Losordo, T.M., DeLong, D.P., Jones, R.D., Dalrymple, D.J., Watanabe, W.O. (2008) Waste capture and water renovation in a fully closed marine aquaculture production system: Adapting freshwater technologies to seawater applications. Invited presentation at the Australasian Aquaculture Conference, August 3 – 6, 2008, Brisbane, Queensland, Australia.
- Losordo, T.M., DeLong, D.P., Guerdat, T.C. (2006) Invited presentation with published abstract. Advancements in solids waste capture and wastewater treatment in intensive tank based production systems. Annual Meeting of the World Aquaculture Society and the European Aquaculture Society. May 12, 2006. Florence, Italy.
- Losordo, T.M., DeLong, D.P., Guerdat, T.C. Jones R., (2006). Invited presentation. Advancements in the capture and treatment of wastewater from intensive tank based production systems. Meeting of the Asian Pacific Chapter of the World Aquaculture Society. August, 2006. Adelaide, Australia.
- Losordo, T.M., D.P. DeLong, and P.W. Westerman. (2004). Waste generation, treatment and minimization in the production of warm freshwater finfish. Invited presentation at the Annual Meeting of the World Aquaculture Society. March 1 – 5, 2004. Honolulu, Hawaii, USA.
- Losordo, T.M., G. Allan, M. Booth and D. DeLong. (2004). Nitrification rates in marine biofiltration for aquaculture applications. Invited presentation at the Annual Meeting of the Asian Pacific Chapter of the World Aquaculture Society. September 27, 2004. Sydney, New South Wales, Australia.
- Losordo, T.M., D.P. DeLong, and P.W. Westerman. (2004). Translating kinetics to economics: comparative costs of different biofilter systems. Invited presentation at a workshop on the “Design and Selection of Biological Filters for Freshwater and Marine Applications,” November 8 – 11, 2004, The Aquaculture Interchange Program, University of Hawaii, East-West Center, Honolulu, Hawaii. USA.

RECENT STUDENT MENTORING AND ADVISING

- Todd Guerdat, PhD, Biological & Agricultural Engineering, *Committee Chair* (May, 2011)
- Chris Resimius, MS, UNCW, Department of Biology, *Committee Member* (May, 2012)
- Tyler Gibson, MS, UNCW, Department of Biology, *Committee Member* (May, 2012)
- Richard Jones, MS, Biological & Agricultural Engineering, *Committee Chair* (Dec., 2010)
- Michael Berecz, Ph.D., College of Veterinary Med., *Committee Member* (May 2010)
- Dustin Allen, MS, Biological Sciences, UNCW, *Committee Member* (May, 2009)
- Todd Guerdat, MS, Biological & Agricultural Engineering, *Committee Chair* (May, 2008)
- James Wilde, MS, Biological Sciences, UNCW, *Committee Member* (May, 2008)
- Marc Turano, Zoology, Ph.D., Zoology, *Committee Member* (May, 2006)
- Steven Trusdale, Biological Sciences, MS, UNCW, *Committee Member* (Dec. 2006)
- Laura Shewmon, MS, Zoology, *Committee Member* (May, 2005)
- Willie J. Saliling, MS, Biological & Agricultural Engineering, *Committee Chair* (May 2005)
- Kevin Yates, MS, Biological Sciences, UNCW, *Committee Member* (Dec. 2004)

RECENT CONSULTING ACTIVITIES

Providing consulting services in aquaculture engineering design to clients outside of North Carolina. Recent clients include:

Seafresh Sturgeon, Moscow, Russia. Engineering and design assistance for aquaculture production technology. 2009 – Present.

Tasmanian Aquaculture and Fisheries Institute (TAFI), University of Tasmania
Hobart, Tasmania, Australia. Engineering and design assistance for aquaculture hatchery and nursery technology. May 2010 – Present.

YanMar Co. Ltd., Chayamachi, Kita-ku, Osaka, Japan. Engineering and design review of aquaculture production technology. 2009 – present.

IntAct, Inc., Boston, MA. This company has developed and is conducting commercial research in the area of microbial fuel cells. I have been asked to guide them as they look at aquaculture as an application for this new technology. May 2010 – present.

Mote Marine Laboratories, Sarasota, Florida, USA. Design assistance for the development of freshwater and marine recirculating systems hatcheries, nurseries, and growout systems in a 200 acre aquaculture research park. (2002 – 2009)

International Aquaculture Associates, Charleston, SC, USA. Design assistance and model development in the development of a feasibility study of the production of marine shrimp in greenhouse structures. (2006).

Central Research Laboratory of the Electric Power Industry, Abiko, Japan. Design assistance for the development of plans for a commercial scale recirculating puffer fish (Fugu) facility. (2006)

Marine Harvest – Australia, Darwin, Australia. Design assistance in the development of a large-scale, recirculating barramundi finfish nursery (2005)

National Centre for Biotechnology and Engineering, Bangkok, Thailand. Complete design of the recirculating nucleus breeding facility for specific pathogen free shrimp (2005).