

Le Anh Tuan
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Institute of Aquaculture
Nha Trang University,
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EDUCATION

ACIAR & Academic/Research Institutes in the East Coast, Australia
Training on Agriculture Research Management, 2010.

Nha Trang University (Vietnam) and *CSIRO* (Australia)
PhD degree, Fish Nutrition and Aquafeeds, 2008.

Asian Institute of Technology (Thailand)
MSc degree, Aquaculture, 1998.

Nha Trang University, Nha Trang, Vietnam
BSc degree, Aquaculture, 1993.

RESEARCH INTERESTS

- 2001-present: Fish nutrition and aquafeed development
 - o Marine finfishes: groupers, etc.
 - o Crustaceans: lobsters, shrimps, etc.
- 1993- present: Aquaculture
 - o Marine species (groupers, cobia, pompanos, Asian sea-bass, etc; spiny lobsters, penaeid shrimps, crabs; algae (Macro- and micro-));
 - o Coastal planning and management for aquaculture.

TEACHING RESPONSIBILITY

BSc Aquaculture program

1. Planning and management for aquaculture development
2. Scientific Research Methodology in Aquaculture

MSc Aquaculture program

1. Fish nutrition and Aquafeeds
2. Aquaculture experimental design and data analysis

3. Aquaculture Environmental Management
4. Coastal Zone Integrated Management

PhD Aquaculture program

1. Aquaculture systems

PUBLICATIONS AND PRESENTATIONS

Books (in Vietnamese)

1. Seaweed Culture, Agriculture Publisher, Ho Chi Minh city, 2004. (Author)
2. Fish Nutrition in Aquaculture, Agriculture Publisher, Ho Chi Minh city, 2006. (Translator).
3. Biofloc Technology: The Practical Guide Book (Book chapter: Feeding with bioflocs), Agriculture Publisher, Ho Chi Minh city, 2013. (Translator).
4. Aquaculture Experimental Design and Data Analysis. *In press*. (Author)
5. Bioenergetics in Aquaculture. *In press*. (Author)

Journals and Presentations

1. [Le Anh Tuan](#), 2017a. Challenges and opportunities in aquaculture development: experience from Vietnam with implications to Myanmar and other Asian developing countries. Asia Regional Training and Capacity Building Workshop on Fisheries Trade & Development, UNCTAD, Yangon, Myanmar, 8-10 August 2017.
2. [Le Anh Tuan](#), 2017b. Techniques in improving fish-seed and fish-feed for aquaculture: Experience from Vietnam with implications to other Asian developing countries. Asia Regional Training and Capacity Building Workshop on Fisheries Trade & Development, UNCTAD, Yangon, Myanmar, 8-10 August 2017.
3. Mai Duy Minh, Bui Ba Din, [Le Anh Tuan](#), 2017. The effect of dietary protein energy levels on the growth and survival of ornate spiny lobster, *Panulirus ornatus*, cultured in recirculation system. Proceedings of the 9th Regional Aquafeed Forum (RAF9) held in HCMC, August 28th -29th, 2017.
4. Elizabeth H. Petersen, Brett D. Glencross, Truong Ha Phuong, Vu An Tuan, and [Le Anh Tuan](#), 2016. Recent Changes in the Bioeconomics of Lobster and Mud Crab Mariculture in Vietnam, Asian Journal of Agriculture and Development (ISSN 1656-4383), pp89-106.
5. Ho Son Lam, Huynh Minh Sang, [Le Anh Tuan](#), 2014. Some growth characteristics of sand whiting (*Sillago sihama* Forsskal, 1775) at Nha Phu lagoon, Khanh Hoa province, *Review of Science – Technology of Fisheries* Vol. 02/2014, Nha Trang University, Vietnam, pp 111-115.
6. Nguyen Thi Minh Nguyet, [Le Anh Tuan](#), Nguyen Quang Hung, 2014. Effect of densities on growth, survival rate of Ben Tre clam (*Meretrix lyrata* Sowerby,

- 1851) reared in pond in Thai Binh, *Review of Science – Technology of Fisheries* Vol. 02/2014, Nha Trang University, Vietnam, pp 129-133.
7. Nguyen Thanh Hao, [Le Anh Tuan](#), 2013. The status of white-leg shrimp (*Litopenaeus vannamei* Boone, 1931) seed production in Ninh Thuan province, *Review of Science – Technology of Fisheries* Vol. 04/2013, Nha Trang University, Vietnam, pp 101-107.
 8. [Le Anh Tuan](#), 2013. Apparent digestibility of selected marine and terrestrial plant feed ingredients for spiny lobster *Panulirus ornatus*, *Review of Science – Technology of Fisheries* Vol. 01/2013, Nha Trang University, Vietnam, pp 78-84.
 9. [Le Anh Tuan](#), 2012a. *Rearing spiny lobster Panulirus ornatus in tanks using pelleted diet: effects of stocking densities and shelter settings*. Paper presented at the 4th Regional Aquafeed Forum held at the Novotel (12-13/4/2012), Nha Trang, Vietnam.
 10. [Le Anh Tuan](#), 2012b. *Vietnam Land based lobster production experiments: status, results and research needs*. Paper presented at the Vietnam-Taiwan international conference on seed breeding technology and mariculture held at the Nha Trang University (25-26/5/2012), Nha Trang, Vietnam.
 11. [Le Anh Tuan](#), 2012c. Spiny lobster *Panulirus ornatus* reared in concrete tanks using lab-made diet: effects of stocking densities and shelter settings. International Fisheries Symposium – IFS2012, Can Tho, 06-08th December 2012.
 12. Nguyen Thi Mai and [Le Anh Tuan](#), 2012. “*Effects of using fresh fish in marine finfish farming on the environment of the Van Don sea, Quang Ninh province*.” *Review of Science – Technology of Fisheries* Vol. 02/2012, Nha Trang University, Vietnam, pp 166-172.
 13. [Le Anh Tuan](#) and Nguyen Dinh Mao, 2009. *Effect of trash fish species and vitamin supplementation on productivity of Panulirus ornatus juveniles fed moist diets*. In Williams K.C. (ed.) 2009. Spiny lobster aquaculture in the Asia–Pacific region. Proceedings of an international symposium held at Nha Trang, Vietnam, 9–10 December 2008. ACIAR Proceedings No. 132. Australian Centre for International Agricultural Research: Canberra. p126-130.
 14. [Le Anh Tuan](#) and Lai Van Hung, 2009. *Comparison of the biological, environmental and economic efficiency seacage culture of Panulirus ornatus lobsters using different practical diets*. In Williams K.C. (ed.) 2009. Spiny lobster aquaculture in the Asia–Pacific region. Proceedings of an international symposium held at Nha Trang, Vietnam, 9–10 December 2008. ACIAR Proceedings No. 132. Australian Centre for International Agricultural Research: Canberra. p110-116.
 15. Lai Van Hung and [Le Anh Tuan](#), 2009. *Lobster seacage culture in Vietnam*. In Williams K.C. (ed.) 2009. Spiny lobster aquaculture in the Asia–Pacific region. Proceedings of an international symposium held at Nha Trang, Vietnam, 9–10 December 2008. ACIAR Proceedings No. 132. Australian Centre for International Agricultural Research: Canberra. p10-17.
 16. Hambrey, J.B., and [Le Anh Tuan](#), 2009. *Start to conduct a technical and environmental risk analysis of current aquatic production systems in Vietnam*. Final report, 2008 SUDA activity 3.2.1, MARD, Hanoi, Vietnam.
 17. [Le Anh Tuan](#) (2008), “Characteristics of the intestinal tract and diet composition of wild malabar grouper, *Epinephelus malabaricus* from the Nha Trang Bay”,

- Review of Science – Technology of Fisheries* Vol. 02/2008, Nha Trang University, Vietnam, pp 3-9.
18. Le Anh Tuan, (2008). “Preliminary assessment of technical, economic and environmental efficiency of cage culture of Malabar grouper, *Epinephelus malabaricus*, using fresh fish diet and pelleted diet”, *Review of Science – Technology of Fisheries*, Vol. 04/2008, Nha Trang University, Vietnam, pp 3-10.
 19. Le Anh Tuan (2008), Studies on nutritional requirements and pilot out-growing of malabar grouper, *Epinephelus malabaricus*, using pelleted feeds. PhD thesis, Nha Trang University, Vietnam.
 20. Le Anh Tuan (2007), “Nutrient requirements of marine finfish: current status”, *Review of Science – Technology of Fisheries* Vol. 03/2007, Nha Trang University, Vietnam, pp 67-73.
 21. Le Anh Tuan, Williams, KC (2007), “Optimum dietary protein and lipid specifications for juveniles malabar grouper (*Epinephelus malabaricus*)”, *Aquaculture* 267, pp129-138.
 22. Le Anh Tuan (2006), “Fishmeal replacement by soybean meal and meat bone meal in diets for juvenile malabar grouper *Epinephelus malabaricus*, in experimental conditions”, *Review of Science – Technology of Fisheries* Vol. 03-04/2006, Nha Trang University, Vietnam, pp 59-67.
 23. Le Anh Tuan (2005a), “Trashfish resources in Vietnamese seawater: species composition, production, major uses and its sustainability when used as direct feed ingredients in aquaculture”, Proceeding of National Workshop of Protection of Environment and Fisheries Resources, 14-15/1/2005 in Hai Phong city, Agriculture Publishing House, Hanoi, Vietnam. pp 379-387.
 24. Le Anh Tuan (2005b), “Effects of trashfish species and feeding rates on growth and survival rate of juvenile malabar grouper *Epinephelus malabaricus*, in experimental conditions”, *Journal of Fisheries*, Vol. 5, pp 20-23, Hanoi, Vietnam.
 25. Le Anh Tuan (2005c), “Effects of dietary protein and lipid on growth and survival rate of juvenile malabar grouper *Epinephelus malabaricus*, in experimental conditions”, *Journal of Fisheries*, Vol. 10, pp 23-26, Hanoi, Vietnam.
 26. Le Anh Tuan (2005d), Effects of dietary protein and lipid on growth and survival rate of juvenile marble grouper *Epinephelus fuscoguttatus*, in experimental conditions”, in Proceedings of The Second National Young Scientists Conference on Agriculture – Forestry – Fisheries, UAF, Ho Chi Minh city, Vietnam.
 27. Le Anh Tuan (2005e), “Nutrients Budget and Environmental issues related to lobster cage culture in Xuan Tu village, Van Ninh, Khanh Hoa” in Proceedings of the National workshop on Research and Technologies applied in Aquaculture, 22-23/12/2004 in Vung Tau city, pp 643-653.
 28. Le Anh Tuan (2005f), “Best practices for using trash fish in the culture of juvenile Malabar grouper, *Epinephelus malabaricus*”, *Aquaculture Asia*, Vol. X, No.1, pp. 40-41 & 45.
 29. Le Anh Tuan (2004), “Grouper Aquaculture in Vietnam: current status and technical constraints”, *Review of Science – Technology of Fisheries*, Special Volume, pp. 174-179, Nha Trang University, Vietnam.

30. Edwards, P., [Le Anh Tuan](#) and Allan, G.L. (2004), A survey of marine trash fish and fish meal as aquaculture feed ingredients in Vietnam. ACIAR Working Paper No. 57, Canberra, Australia.
31. [Le Anh Tuan](#) and Nguyen Dinh Mao (2004), Present status of lobster cage culture in Vietnam. Proceeding of the ACIAR lobster ecology workshop, 24-30. Institute of Oceanography, Nha Trang, Vietnam.
32. Hambrey, J.B., [Le Anh Tuan](#) and Ta, K.T. (2001), “Aquaculture and poverty alleviation II. Cage culture in coastal waters of Vietnam”, *World Aquacult.*, 32, pp. 34-38.
33. [Le Anh Tuan](#), Hambrey, J.B. and Nguyen, T.N. (2000), “Status of cage mariculture in Vietnam”, In: I. Chiu Liao and C. Kwei Lin (Eds.), *Cage Aquaculture in Asia*, pp. 111-123, Asian Fisheries Society, Manila and World Aquaculture Society, Bangkok.
34. Hambrey, J.B., [Le Anh Tuan](#), Nguyen T.N., Do, T.H., Ta, K.T., (1999), “Poverty alleviation and marine cage culture in Vietnam”, *Aquaculture News (Scotland)*, 25, pp15-18.
35. [Le Anh Tuan](#) (1998), The sustainability of grouper seed supply to the aquaculture industry in Khanh Hoa, Vietnam, Master thesis, AIT, Bangkok, Thailand.

Projects, consultant activities and training courses involved

2014-2015 **Rearing scalloped spiny lobster (*Panulirus homarus*) from juvenile (20-30 g) to sub-adult stage (≥150 g) in concrete tanks using pelleted diets in Ninh Thuan province.** With Ninh Thuan Agency for Aquaculture. Senior Advisor.

2009-2014 **Improving feed sustainability for marine aquaculture in Vietnam and Australia (FIS/2006/141).** With Dr Brett Glencross (CSIRO) and ACIAR (Australia). NTU Project Manager.

2009-2013 **Spiny lobster aquaculture development in Indonesia, Vietnam and Australia (SMAR/2008/021).** With Dr Clive Jones (QDPI) and ACIAR (Australia) and Marine Aquaculture Development Centre in Lombok, Indonesia. NTU Project Manager.

2011-2012 **Development of Land-based Lobster Production Systems in Vietnam and Australia (FIS/2011/008).** With Dr Clive Jones (QDPI) and ACIAR (Australia). NTU Project Manager.

2010 **Evaluation of the Vietnam sub-component of the Fisheries Management and Governance Component, DakLak, Vietnam, 1st Oct – 31st Dec, 2010.** Working with Mekong River Commission (MRC) as External Evaluator.

2009-2010 **Carrying out the feasibility study and preparation of Detailed Project Report for developing mari-culture in Tamil Nadu, India.** With Tata sons, India and SINTEF Fisheries & Aquaculture (Norway). International consultant with Mr Niels Svenevig.

2008-2009 **Start to conduct a technical and environmental risk analysis of current aquatic production systems in Vietnam (2008 SUDA activity 3.2.1).** With SUDA, MARD (Vietnam) and Dr Hambrey (Hambrey Consulting, UK). Local consultant.

2006-2008 **Sustainable Tropical Spiny Lobster Aquaculture in Australia and Vietnam and Eastern Indonesia (FIS/2001/058)**. With Dr Williams (CSIRO) and Dr Clive Jones (QDPI) and ACIAR (Australia), Marine Aquaculture Development Centre in Lombok, Indonesia. NTU Project Manager.

2008-2009 SUDA-funded activity on **Start to conduct a technical and environmental risk analysis of current aquatic production systems in Vietnam** (2008 SUDA activity 3.2.1). Working with Dr Hambrey (Hambrey Consulting Ltd) as National Consultant.

2005-2007 **Component II – NORAD-funded Project on Research Capacity Building – Group of Nutrition and Fish feed**. With NORAD (Norway) and University of Fisheries (Vietnam). Team member.

2007 *Aquaculture nutrition master class funded by ASTE CRAWFORD FUND, held at NTU, Nha Trang during 19-21/3/2007*. Involved as lecturer Dr Kevin Williams.

2006 *Aquaculture nutrition master class funded by ASTE CRAWFORD FUND, held at AIT, Thailand during 7-19/8/2006*. Involved as lecturer with Dr Kevin Williams.

2001-2005 **Practical guidance for the estimation and allocation of environmental capacity for aquaculture in tropical developing countries (TROPECA)**. With DFID, Hambrey Consulting (UK), CARE Bangladesh and UoF (Vietnam). Project leader in Vietnam.

2004 *ACIAR-funded survey of Marine trash fish and fish meal as aquaculture feed ingredients in Vietnam*. Working with Prof. Edwards (AIT) as national consultant.

2004 **Comparative economics of the farming of two Panaeid shrimp species: *Penaeus monodon* vs *P. vannamei***. Working with Dr Hambrey (Hambrey Consulting Ltd) as national consultant.

2002-2003 **Development of species profiles under a FSPPS PI contract**. Working with Dr Hambrey (Hambrey Consulting Ltd) as national consultant.

2002-2004 **Comparative economics of potential species for aquaculture in the Nha Trang bay marine protected area**. Working with Dr Hambrey (Hambrey Consulting Ltd) as local consultant.

2000-2002 **Research Capacity Building for Nutrition and Aquafeeds (CARD Aquafeed Project)**. With CARD, AusAID (Australia) and University of Fisheries (Vietnam). Coordinator.

2000 **SUMA-funded training course on Coastal planning and management for aquaculture development** held at the UoF, Nha Trang. Working with Dr Hambrey (AIT) as facilitator.

1998-2000 **Improved management of small-scale cage farming systems in tropical Asia (CAGES Project)**. With Dr Hambrey (AIT, Thailand) and DFID (UK), CARE Bangladesh and UoF (Vietnam). Project leader in Vietnam.

PROFESSIONAL MEMBERSHIPS

Founder of the Regional Aquafeed Forum (RAF) in Vietnam.
Member of the World Aquaculture Society.