Fisheries research and education: Thailand



Suriyan Tunkijjanukij

Faculty of Fisheries, Kasetsart University

Marine research and education institutions

- **Autonomous university-KU, CU, PSU, BU, KMITL, Maejo etc.**
- **National university-some RMUT, some Rajaphat Univ.**
- **Vocational institutes-Songkhla, Ranong, Pattani**
- **International post-graduate institute-AIT**

KASETSART UNIVERSITY SINCE 1943

KASETSART UNIVERSITY

ASIAN INSTITUTE OF TECHNOLOGY 1959

History

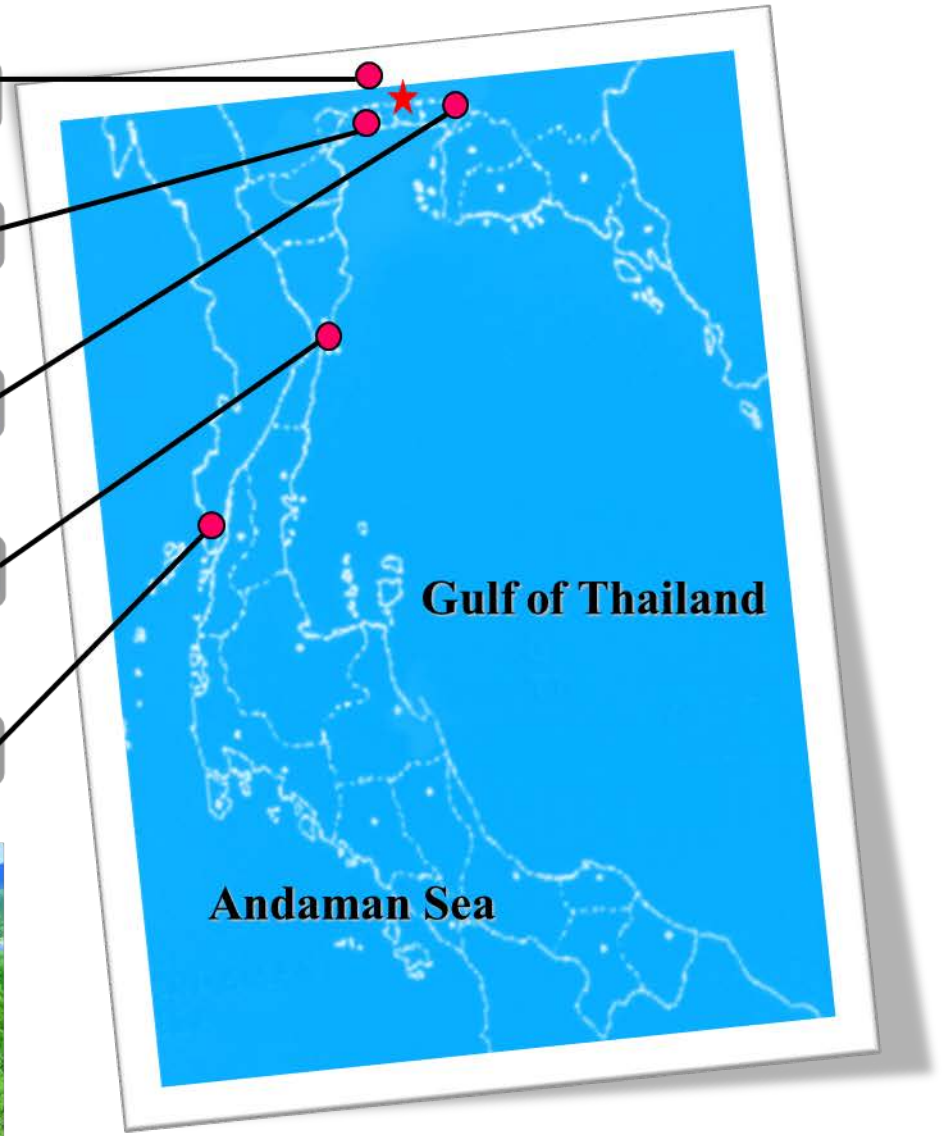
The Faculty of Fisheries was established as one of the first four faculties of Kasetsart University on 2 February 1943

Main campus at Bangkhen

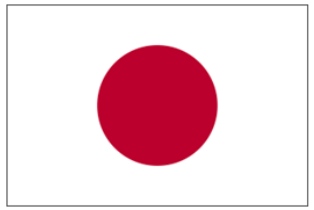
Kamphaengsaen campus

Research Stations

- Kamphaengsaen Fisheries Research Station
- Samut Songkram Fisheries Research Station
- Sriracha Fisheries Research Station
- Klongwan Fisheries Research Station
- Andaman Coastal Research Station for Development



Collaborating Universities for Student and Staff Exchange Activities in Japan



HIROSHIMA

HOKKAIDO UNIVERSITY

愛媛大学
EHIME UNIVERSITY

KYOTO UNIVERSITY
京都大学
KYOTO UNIVERSITY

香川大学
KAGAWA UNIVERSITY

国立大学法人
鹿児島大学
KAGOSHIMA UNIVERSITY

Toho University

YAMAGUCHI UNIVERSITY
山口大学

TUMSAT
Tokyo University of Marine Science and Technology

筑波大学
University of Tsukuba

The KU-OUC Dual Degree Program
（KU-OUC 硕士研究生双学位项目）
between

Master of Science Program in Fishery Science and Technology (International Program)

and Graduate School, Kasetsart University

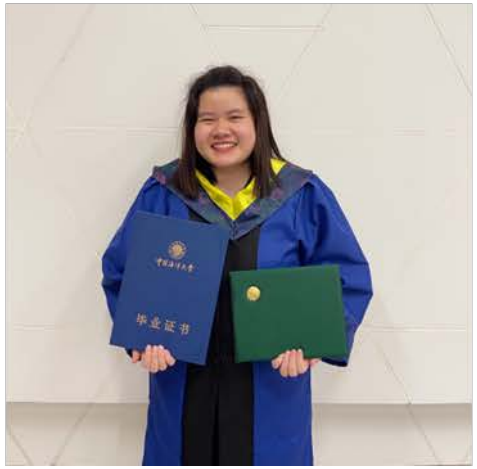
and

The Master' degree of Agriculture, College of Fisheries

The Master's of Engineering, College of Food Science and Engineering

The Master's degree of Medicine, School of Medicine and Pharmacy

In Graduate School, Ocean University of China

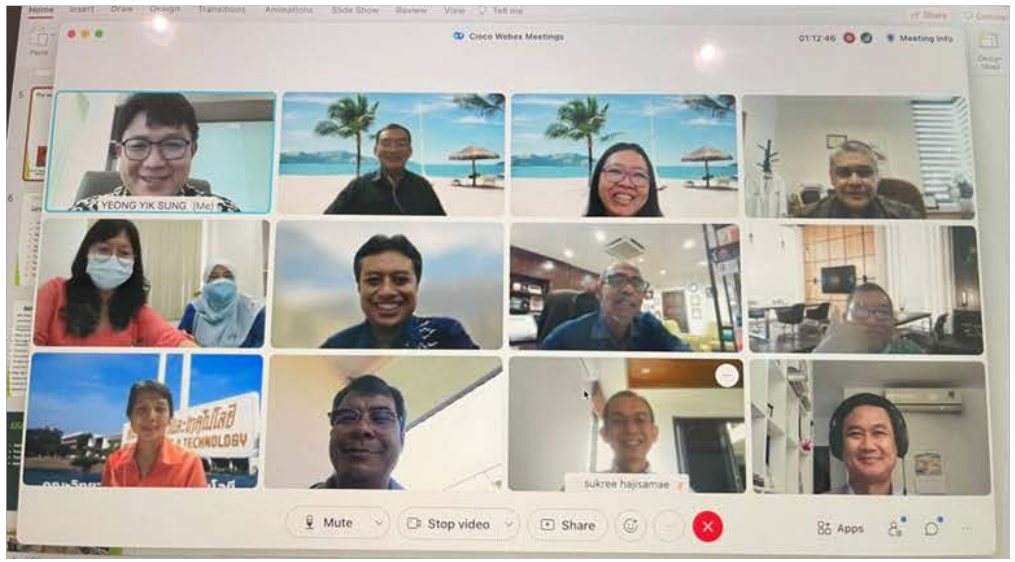


Partnership agreement
Governing the joint supervision and awarding of a doctorate
between Ghent University and Kasetsart University

Core ASEAN-FEN Institutional Members

1. Universiti Malaysia Terengganu, Malaysia
2. Universiti Sains Malaysia, Malaysia
3. Kasetsart University, Thailand
4. Prince of Songkla University, Thailand
5. Rajamangala University of Technology Srivijya, Thailand
6. Can Tho University, Vietnam
7. Nong Lam University, Vietnam
8. Universitas Air Langga, Indonesia
9. Universitas Brawijaya, Indonesia

ASEAN Fisheries Education Network



OQEANOUS PLUS Program

- Tokyo University of Marine Science and Technology
- Korea Maritime and Ocean University
- Shanghai Ocean University
- Kasetsart University
- Chulalongkorn University
- IPB University
- Malaya University






Scholarship Opportunity

Master of Science in Fishery Science and Technology Program

Indonesia

Mr. Putra Ali Syahbana Matondang

Cambodia

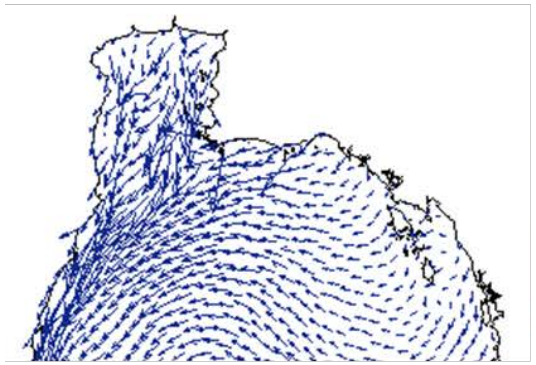
Mr. Pisey Say

Mongolia

Miss Uyench Bayasgalan

Estuarine and Coastal Dynamics Modeling Laboratory *Dept. Of Marine Science*

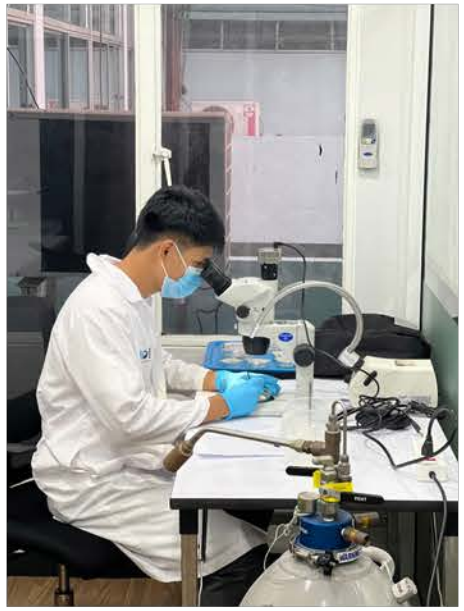
"Investigation of the physical and biogeochemical processes characters, interactions and variations of estuaries and coastal seas for their better utilizations."

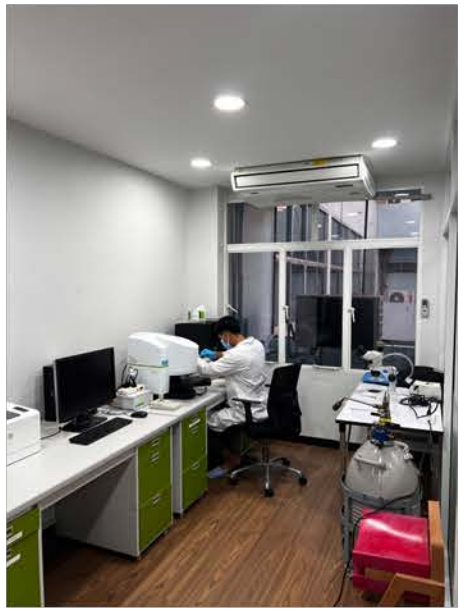


Partners:

Combating Marine Debris Unit

Department of Marine Science, Faculty of Fisheries



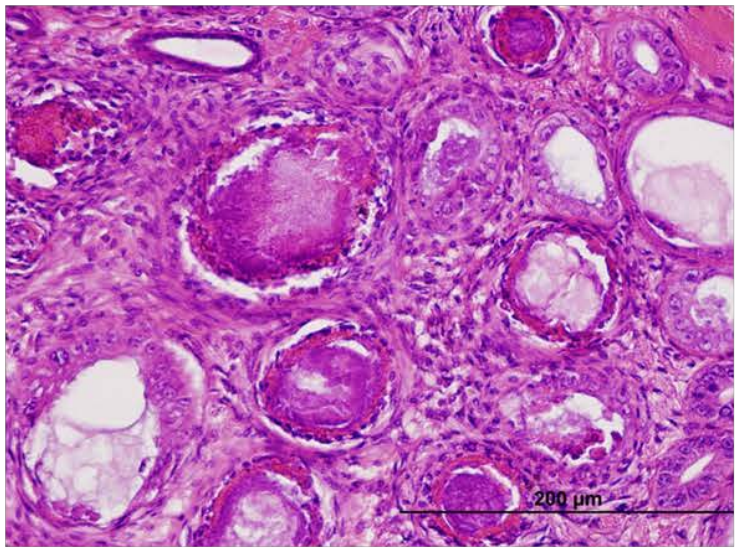


MEMO LAB

Marine Environmental Monitoring Laboratory

Research Fields

- Shrimp diseases
- Aquaculture
- Feed additives in aquaculture
- Drug and chemical uses in aquaculture



Research Fields

- Fish and shrimp nutrition
- Raw materials in Aquafeed
- Feed additives in aquaculture
- Nutrients and feed additives on Meat quality
- Aquafeed processing

Laboratory of Aquatic Animal Nutrition and Aquafeed

Taxonomy, Diversity and Distribution

- **Classical and modern methods (molecular technique) in algal taxonomy and diversity, especially brown and red marine macroalgae**
- **Use of genetic data to reconstruct the evolurionary history, phylogeographic pattern and population structure of marine macroalgae.**

New Algal Species From Our Research

Gracilaria coppejansii

Gracilaria khanjanapajiae

Gracilaria lantaensis

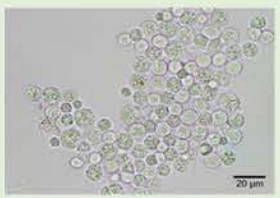
Gracilaria phuquocensis

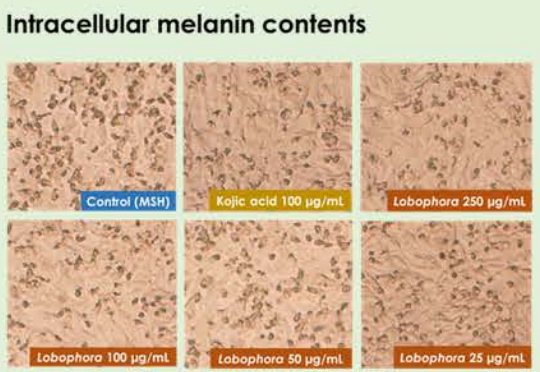
Aquaculture and Ecophysiology

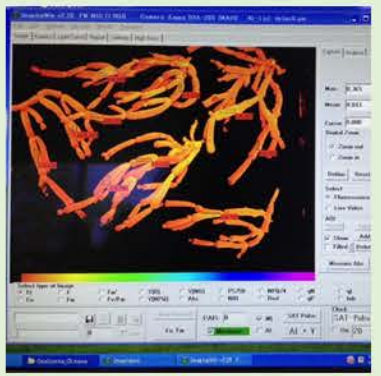
- **Development of algaculture technique of *Gracilaria*, *Caulerpa*, *Ulva* and *Cladophora***
- **Potential use of macroalgae for carbon dioxide reduction**
- **Application of algae on water bioremediation**
- **Monitoring of environmental changes in natural algal stock**

Biotechnology and Utilization

- Micro-algal cultivation under mixotrophic and heterotrophic conditions to produce a high-value compound
- Seaweed utilization as food, feed, energy, cosmetic and etc.
- Functional properties of seaweed extract, especially polysaccharide
- Photosynthesis of seaweed







Research Areas

- Product development
- Fish processing
- Seafood safety
- Food biotechnology
- Utilization of by-products from fish processing plants

AIT
Asian Institute of Technology

AIT's AQUACULTURE & AQUATIC RESOURCES MANAGEMENT PROGRAM (AARM)

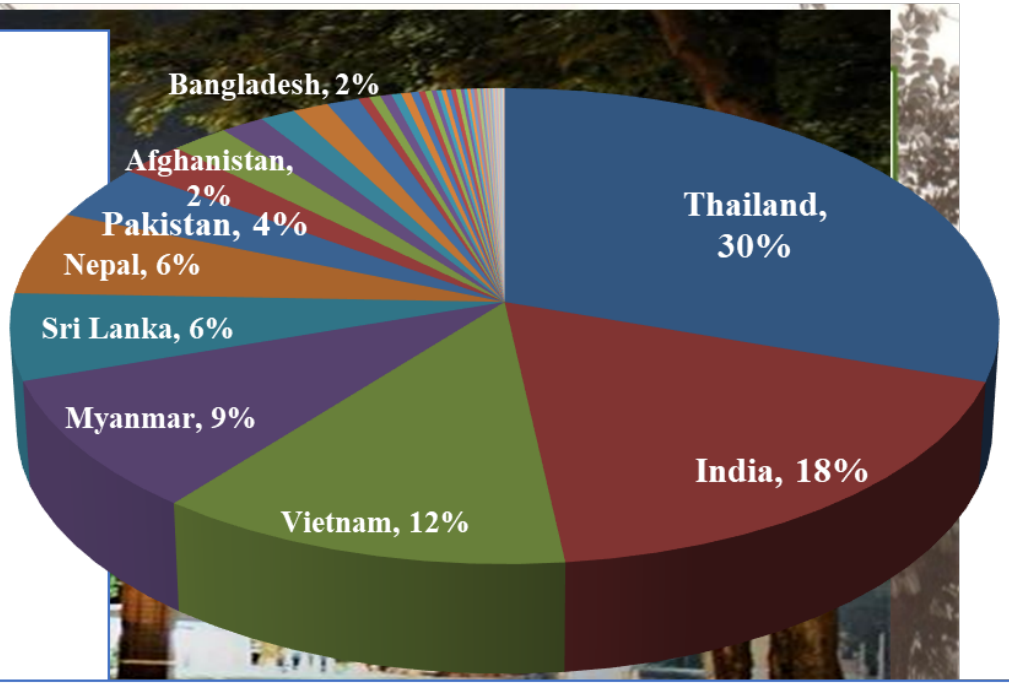
Krishna R. Salin, PhD
Chair, Aquaculture Program, Asian institute of Technology (AIT)
President, World Aquaculture Society, Asian-Pacific Chapter (WAS-APC)

salinkr@ait.ac.th

www.aitaquaculture.org

AIT's Legacy

- ✓AIT is not a traditional Thai University
- ✓An international post-graduate institute
- ✓Board of Trustees comprises 14 governments in the East and West
- ✓Local Actions with Global Thinking
- ✓Appreciate Diversity in Cultures and Religions
- ✓Act Environmentally Responsible ways
- ✓Appreciate Research for Mankind
- ✓Team work amid Interconnected Societies and Interdisciplinary Integration



- ~100 Faculty members from 20+ countries
- ~30 Academic programs
- 200+ Academic partnerships
- >25,000 alumni from 100+ countries

Connecting science and practice

Our research is not **disconnected with real field issues** of the industry

We work with industry

Research that has an **applied value**

Research that appreciates **traditional knowledge**

Research that also **learns from industry**

Finding innovative solutions to the production problems

- **Social solutions**
- **Technological solutions**

Aquaculture & AQUATIC RESOURCES MANAGEMENT Program @ AIT

- AIT's Aquaculture and Aquatic Resources Management (AARM) Program started in 1982
- Education @ Master's and Doctoral levels + training programmes
- Research focus: Sustainable Asian Aquaculture

Systematic research on **Innovative Asian Aquaculture systems**

Develop partnerships with industry

Play major role in Asian aquaculture

CERTIFICATE PROGRAM ON SUSTAINABLE ASIAN AQUACULTURE WITH INTERNSHIP

NEW

CERTIFICATE DEGREE PROGRAM @ AIT

GET ENLIGHTENED IN THE CRADLE OF ASIAN AQUACULTURE

- New Certificate program leading to regular Master's Degree at AIT
- Duration - 6 months (One semester)
- Three months of course work and 3 months of internship
- Beginning August 2017 semester

CERTIFICATE DEGREE PROGRAM ON SUSTAINABLE ASIAN AQUACULTURE

- Unique opportunity to learn Asian Aquaculture technologies
- Internship options to become masters of practical aquaculture technology
- Internship at a Thai Shrimp/Fish Hatchery/Farm/Feed Mill
- Out of the world experience by working with the innovative Thai aquaculture industry

Apply before 30 June for August semester

Course Fee: **6300 US$/semester**
(exclusive of lodging, living and insurance expenses)

	Programme Outline
Module 1	**Principles of Aquaculture** • Aquaculture Systems and Practices • Freshwater Aquaculture (carps, tilapia and prawns) • Marine Finfish Farming (sea bass and groupers) • Smart Shrimp Farming
Module 2	**Management of Aquaculture Production** • Water Quality Management • Nutrition and Feed Technology • Health Management in Aquaculture • Breeding, Hatchery Management and Genetics
Module 3	**Integrated Aquaculture systems** • Global Overview of Integrated Aquaculture • Integrated Multi-trophic Aquaculture (IMTA) • Aquaponics
Module 4	**Recirculating Aquaculture Systems** • RAS Design and Engineering • RAS Operation and Management • Commercial Recirculating Systems
Module 5	**Biofloc and Aquamimicry Technologies** • Basic Principles of Biofloc Technology • Management of Commercial Shrimp Biofloc Systems • Aquamimicry Technology – Principles and Management
Module 6	**Seafood marketing and economics** • Trends in Global Seafood M • Seafood Certification and T
Module 7	**Asian Aquaculture Experience** • Tilapia Seed Production an • Shrimp Hatchery Experienc • Shrimp Farm Experience • Marine Fish Hatchery Exper

3 months
Course work and 3 months internship

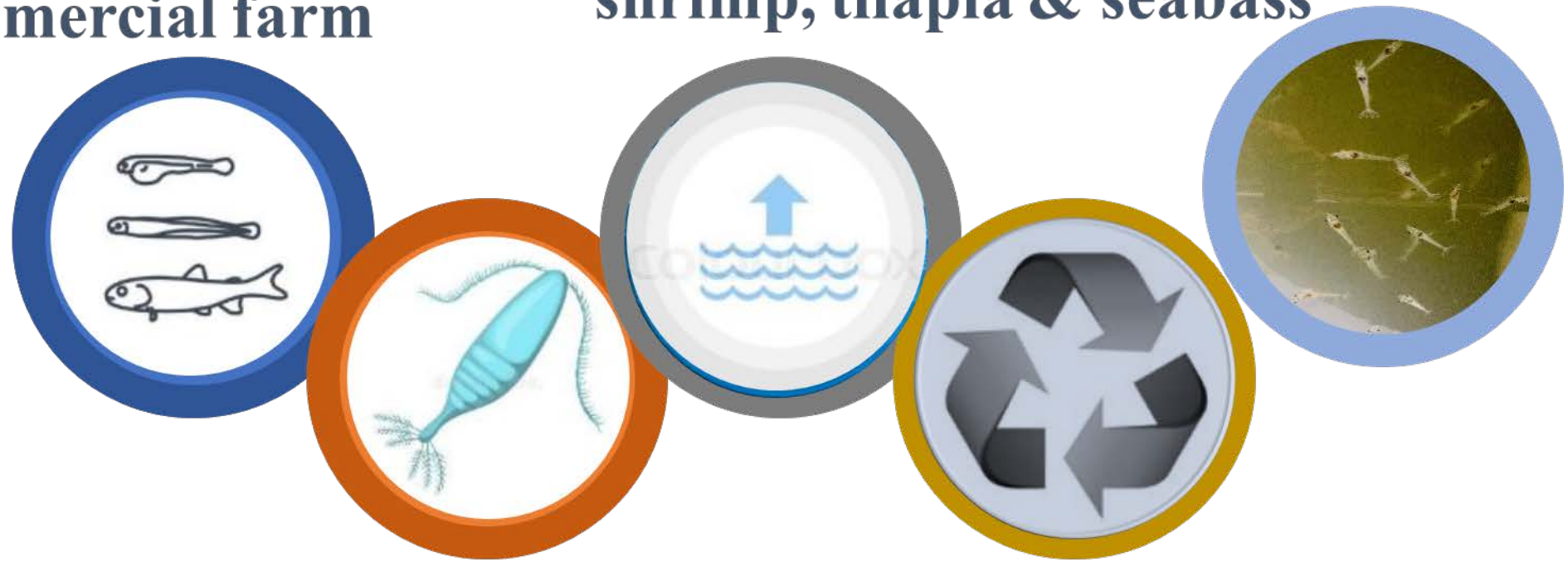
Thematic areas for research

- **Eco-friendly aquaculture technologies**
  - Joint research projects on eco-friendly methods of marine aquaculture
    - Involving nutritional, genetic and disease management aspects
  - Development of Biofloc and low-cost Recirculating Aquaculture Systems (RAS) for finfish/shellfish
- **Innovative hatchery management technology for finfish and shellfish**
  - Protocols for freshwater and marine finfish hatchery management.
  - Focus on commercial species in Asia
  - Selective breeding protocols for stock improvement
- **Disease diagnostics and health management**
  - Development of fish and shrimp disease detection kits
  - Development of vaccines

RESEARCH FACILITIES

Research/semi-commercial farm

Biosecure research facilities for shrimp, tilapia & seabass



Research/Semi-commercial Fish Hatchery

Laboratories

Led by Dr. Ha Thanh Dong

- Pathogen identification & characterization
- Disease diagnosis
- Disease pathogenesis
- Fish vaccine development
- Application of nanobubble technology

GIANT PRAWN CONFERENCES – THAILAND (2017), CHINA (2019), THAILAND (2023)

www.giantprawn.org

- AIT organised GIANT PRAWN 2017 Edition in March 2017

GIANT PRAWN 2019 in Shanghai

November 2019

GIANT PRAWN 2023 in Bangkok

June 2023

ASIAN AQUACULTURE Conference @ AIT

- www.asianaquaculture.org

Program:

https://www.asianaquaculture.org/program-schedule.htm

Speakers:

https://www.asianaquaculture.org/speakers.htm

Celebrating Asian Aquaculture …


Thank You!
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