



NAHEP



Virtual  
Aquaculture  
Internship

# Sustainable Aquaculture Systems and Practices



APRIL 27 - JULY 15, 2021

Zoom Video

Conferencing Platform



**Jointly organized by**

Aquaculture & Aquatic Resources Management (AARM)  
Asian Institute of Technology (AIT), Thailand

Sher-e-Kashmir University of Agricultural Sciences and Technology,  
Srinagar, India

**Supported by**

National Agricultural Higher Education Project (NAHEP), ICAR, India



NAHEP



Jointly organized by  
AARM, AIT, Thailand and SKUAST

Supported by  
National Agricultural Higher Education Project  
(NAHEP), ICAR, India

## VIRTUAL AQUACULTURE INTERNSHIP

# SUSTAINABLE AQUACULTURE SYSTEMS AND PRACTICES

Aquaculture is one of the world's fastest-growing food production sectors. The lion's share of this production comes from Asia. As diverse aquaculture systems and practices expand across Asia to enhance production and productivity, there are also growing concerns about the impacts of intensive aquaculture on the environment and associated challenges faced by producers and consumers in the domestic and international markets. Aquaculture production must ensure food safety and quality while contributing to its environmental, economic, and social sustainability.

Capacity building on sustainable aquaculture is essential to bring awareness and encourage compliance on best farming practices among the budding technocrats in the professional stream of fisheries and aquaculture education in Asia. It is with this objective that a Virtual Certificate Program on Sustainable Aquaculture Systems and Practices is being organized by the Aquaculture and Aquatic Resources Management (AARM) Program of Asian Institute of Technology (AIT), Thailand partnering with the Sher-e-Kashmir University of Agricultural Sciences and Technology (SKUAST), Srinagar, India. The program is supported by the National Agricultural Higher Education Project (NAHEP), the flagship initiative under the Indian Council for Agricultural Research (ICAR), Govt. of India.

The world's leading experts in the aquaculture production and business segments will handle the technical sessions for the undergraduate students of SKUAST. With the continuing global travel disruptions by the Covid-19 pandemic, this program will be conducted virtually over the Zoom Video Conferencing platform hosted by the Aquaculture Program of AIT, Bangkok, Thailand.





# RESOURCE PERSONS



## Dr. Krishna R. Salin

*Chair, AARM Academic Program/  
Asian Institute of Technology, Thailand*

Dr. Salin is currently coordinating the Aquaculture and Aquatic Resources Management (AARM) Program of Asian Institute of Technology as its Chair. He has set a new research focus for AARM, centered on sustainable intensification of aquaculture production and has initiated a series of research and capacity development programs substantially boosting the visibility of AIT's Aquaculture Program in the Asia-Pacific region and beyond.



## Dr. Peter Edwards

*Emeritus Professor / Asian Institute of  
Technology, Thailand*

Dr. Edwards is currently an Emeritus Professor at the Asian Institute of Technology in Thailand where he founded the aquaculture programme in the 1980's. He has 40 years of experience in aquaculture education, research and development in Asia where he is based. His main areas of interest are small-scale farming, integrated farming and the environment in developing countries. He has published over 200 papers, about a quarter in refereed international journals, several reviews, and 2 authored and 2 edited books. He has been a consultant for many international and regional organizations e.g. ACIAR, ADB, ESCAP, FAO, NACA, UNDP, The World Bank, WorldFish and WHO. He was awarded Honorary Life Member of the World Aquaculture Society in 2012. He writes a regular column on rural aquaculture for NACA's quarterly magazine Aquaculture Asia.



## Dr. Amaratatne Yakupitiyage

*Adjunct Professor / Asian Institute of  
Technology, Thailand*

Dr. Amara obtained his Ph.D. from Stirling. He specializes in designing of tropical aquaculture systems, aquaculture nutrition, and feed technology. His research involves aquaculture waste management and Biofloc systems. He has supervised around 130 Masters and 30 Doctoral students, and published over 60 peer-reviewed papers.



## Dr. Chang Kwei Lin

*Emeritus Professor / Asian Institute of  
Technology, Thailand*

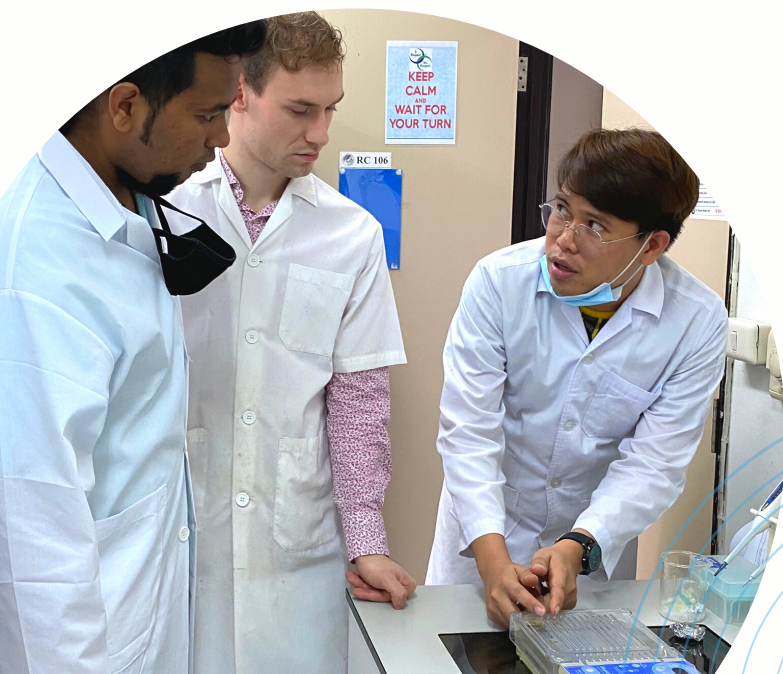
Dr. Chang Kwei Lin obtained his Bachelor's from the National Chong Hsin University, Taiwan, Master's from the University of Alberta, Canada, and Ph.D. from the University of Wisconsin, USA. In the early years of his career, Dr. Lin worked as a Research Scientist in the Philadelphia Academy of Natural Sciences, and was involved in the research on river and wetland ecosystems and associated pollution. He has also worked as a Limnological research scientist in the University of Michigan where he continued the research on water quality and pollution, particularly in the US Great Lakes. Later he joined the Asian Institute of Technology, Thailand as a Professor specialized in water quality and management. Besides, he was a consultant to the World Bank project on coastal wetland restoration in Vietnam.



## Dr. Donald John Macintosh

*Visiting Professor / Asian Institute of  
Technology, Thailand*

Dr. Don has more than 40 years of experiences working on sustainable development issues in South and Southeast Asia, especially on coastal conservation and the integration of forestry, fisheries and aquaculture activities. He holds a B.Sc. Honors degree in Zoology from the University of Aberdeen and a Ph.D. in Coastal Ecology from the University of Malaya, Malaysia. Dr. Don was a Lecturer/Senior Lecturer in the Institute of Aquaculture at Stirling University, and an Aquaculture/Fisheries adviser to the UK Department of International Development and the British Council. He then became Professor in Environment and Development at the University of Aarhus in Denmark. He was the first Coordinator, and then Senior Adviser, for the Mangroves for the Future (MFF) collaborated by IUCN, UNDP and FAO.





# RESOURCE PERSONS



## Dr. Ha Thanh Dong

*Visiting Professor / Asian Institute of Technology, Thailand*

Dr. Dong has been actively conducting basic and applied research in the area of aquatic animal health since 2007. His studies have focused on discovery and characterization of aquatic pathogens with emphasis on emerging infectious diseases of important aquaculture species in Asia. His research team has studied a number of emerging pathogens in tilapia, Asian sea bass and whiteleg shrimp, and developed detection methods for these pathogens. He has authored over 60 international peer-reviewed articles related to this field. Dong is a faculty member at Suan Sunandha Rajabhat University, a visiting Faculty at Asian Institute of Technology, strategic partner of Chulalongkorn University and virtually located at Centex Shrimp (Mahidol University/BIOTEC), Thailand. He has served as editorial advisory board of the Aquaculture journal, referee for >20 peer-reviewed journals, expert resource for the Food and Agriculture Organization of the United Nations (FAO) and WorldFish center. Dong is also maintaining an academic WordPress page updating aquatic animal health research for over 10 years.



## Dr. Md. Lifat Rahi

*Associate Professor / Khulna University, Bangladesh*

Dr. Lifat Rahi is currently working as an Associate Professor at the Fisheries and Marine Resource Technology (FMRT) Discipline, Khulna University, Bangladesh. Dr. Rahi completed his PhD from Queensland University of Technology (QUT), Australia under the supervision of Dr. David A. Hurwood and Prof. Peter B. Mather. Dr. Md. Lifat Rahi was the recipient of the very prestigious Outstanding Doctoral Thesis Award in 2017 from QUT for the international recognition of his outstanding contribution to science and the standard of excellence demonstrated in his PhD research. He is a geneticist, uses modern genomics approaches for the improvement of aquaculture and fisheries management. His primary research interests include aquaculture and quantitative genetics, conservation genomics, cytogenetics and evolutionary genomics. Dr. Rahi has 34 published research articles in peer reviewed and high impact international journals. His current research projects are on genetic improvement of commercially important and endangered aquatic species in Bangladesh using modern genomics tools.



## Dr. Lionel Dabbadie

*Senior Fisheries and Aquaculture Officer / FAO*

Dr. Lionel Dabbadie is a Senior Fisheries and Aquaculture Officer of the FAO. Based in Abu Dhabi (United Arab Emirates), he is currently responsible for providing support to the Gulf Cooperation Council (GCC) States and Yemen. Having earned a doctoral degree from the University of Paris-Jussieu and as an Agronomist Engineer of Montpellier SupAgro, Dr. Lionel served for over 25 years as a scientist for the French Agricultural Research Center (Cirad), working in partnership with local institutions in Africa, Latin America, and Asia. From 2011 to 2014, he served as Visiting Faculty at the Asian Institute of Technology, Thailand, and in 2015, the AIT President bestowed upon him the title of Distinguished Adjunct Faculty. Dr. Lionel also received several awards, notable among them is a Special Distinction from the Philippines' Bureau of Fisheries and Aquatic Resources, and a Silver Medal of the French Academia of Agriculture. He has published over 50 scientific and technical publications, translated two aquaculture books into French, and produced an e-learning course on aquaculture (<https://uved-formation-aquaculture.cirad.fr>). He is also an Associate Editor of the Journal of the World Aquaculture Society and an active social media contributor on aquaculture and fisheries.





# RESOURCE PERSONS



## Dr. Saengchan Senapin

*Principal researcher / Thai National Center for Genetic Engineering and Biotechnology (BIOTEC), National Science and Technology Development Agency (NSTDA), Thailand*

Dr. Saengchan Senapin is a principal researcher at the Thai National Center for Genetic Engineering and Biotechnology (BIOTEC), National Science and Technology Development Agency (NSTDA). She has been working at Centex Shrimp, a cooperative center of excellence supported jointly by BIOTEC and Faculty of Science, Mahidol University, since 2003. Her research focuses on bacterial and viral diseases of tropical fish species, including pathogen discovery and characterization, host-pathogen interaction, and molecular diagnostics. She has authored over 125 peer-reviewed publications. She is currently serving as an Associate Editor of the Journal of Fish Diseases.



## Dr. Nadiah W. Rasdi

*Senior Lecturer / Universiti Malaysia Terengganu, Malaysia*

Dr. Nadiah has broad experience in planktonology and live food culture.

She has also worked on research areas such as food and nutrition of aquatic animals to identify trophic relationships in the food web and applying these findings to aquaculture management to increase fish and shrimp production. Besides, she is also committed to understanding the impacts of climate change on zooplankton biology, abundance, and their growth and reproduction. The goal of her research is to assist in the sustenance of the food security sector.



## Dr. Noratat Prachom

*Faculty / KMITL & Adjunct faculty / Asian Institute of Technology, Thailand*

Dr. Noratat is a faculty at King Mongkut's Institute of Technology

Ladkrabang (KMITL) and has over ten years of experience in fish nutrition, feed formulation and feed processing, quality assurance and research and development in aquaculture. He has been leading as principal investigator: Aquafeedmill Pilot Plant, Faculty of Agricultural Technology, KMITL. He has also been the Formal Director of Meat and Protein Innovation Technology Center (MPIT), KMITL. His previous experience is as QA, R&D, and Formulation Consultant: Laithêiu Feedmill (Vietnam) Co., Ltd., Woosung (Vietnam) Co., Ltd., Mature development B.V. (Netherlands), Bluefalo (Thailand) Co., Ltd., Nutrition Group, Ajinomoto (Japan) Co., Ltd., and as the Assistant Managing Director (QA and formulation) of Asian Feed Co., Ltd. (Thailand).



## Dr. Natrah Ikhsan

*Associate Professor and Researcher / University of Putra, Malaysia*

Dr. Natrah Ikhsan is an Associate Professor and Associate Researcher in

the Department of Aquaculture, Faculty of Agriculture and Laboratory of Marine Biotechnology, Institute of Bioscience, Universiti Putra Malaysia. Currently, she is also the Vice President of the Malaysian Fisheries Society. She obtained her BSc (Hons) in Biology and MSc in Aquatic Biotechnology from Universiti Putra Malaysia. In 2011, she received her PhD in Applied Biological Sciences from the Laboratory of Aquaculture and Artemia Reference Center, University of Ghent, Belgium. She specializes in the field of Aquatic Microbial Ecology, particularly in the development of innovative and sustainable microbial management strategies through an understanding of the host-microbe interaction for enhanced microbial stability and efficient fish health management. Her current research focus is on quorum sensing sociomicrobiology - its pathogenic and probiotic role, particularly in bacteria, algae and other hosts in aquaculture ecosystem as disease control agents.



# RESOURCE PERSONS



## Dr. Edgar C. Amar

*Head of Training and Information Division / SEAFDEC/AQD, Philippines*

Edgar C. Amar is a Scientist and Head of the Training and Information Division of SEAFDEC Aquaculture Department (SEAFDEC/AQD). He obtained his Ph.D. in Aquatic Biosciences from the Tokyo University of Fisheries in Japan, and his Master of Aquaculture from the University of the Philippines Visayas, Philippines. His research interests include Pond and Cage Culture of Fish/Crustacean, Fish Nutrition, and Aquatic Animal Health/Microbiology/Immunology. Among the significant researches, he conducted a collaboration with the Philippine Department of Science and Technology (DOST) and Philippine Genome Center (PGC) to study the pathogenesis of Acute Hepatopancreatic Necrosis Disease (AHPND), and the VLIR Sandwich Ph.D. Program with the University of Ghent to study the growth and health-promoting effects of poly-beta-hydroxybutyrate (PHB) supplementation in penaeid shrimp. Under the Government of Japan Trust Fund Project, he surveyed the aquaculture practices of small-scale farmers in some SEAFDEC Member Countries and conducted on-site trainings to improve the aquatic animal health services of government laboratories. He is a member of Technical Working Groups (TWGs) of several Philippine government agencies and a member of the National Science Advisory Group (NSAG) of the Philippine Department of Agriculture-Bureau of Fisheries and Aquatic Resources (DA-BFAR).



## Dr. Sagiv Kolkovski

*Co-owner and director / Nutrakol Pty Ltd. Nutrakol, Australia*

Dr. Kolkovski is a Co-owner and Director of Nutrakol Pty Ltd. Nutrakol is an Australian company, which develops and manufactures nutritional and health solutions for aquaculture. Previously and for the past 20 years, Dr. Kolkovski was the Principal Scientist at the Department of Fisheries, Western Australia, in charge of developing the marine aquaculture industry. Dr. Kolkovski is currently one of the Directors of the World Aquaculture Society- Asian Pacific Chapter.



## Dr. Truong Dinh Hoai

*Vice Dean, Department Head, Lecturer / Vietnam National University of Agriculture, Vietnam*

Hoai completed an MSc in Aquaculture at James Cook University, Australia and a Ph.D. in the University of Miyazaki, Japan. His research interests focus on aquatic health management, developing diagnostic methods for detecting new and emerging diseases caused by freshwater and marine fish bacterial pathogens, and evaluating their antibiotic resistance. He had worked on several fish vaccines and is also a team leader in several projects to mitigate fish disease outbreaks, applying therapeutics as an alternative for antibiotics such as herbal therapy, bacteriophage therapy, and vaccines. He has authored 40 international and national peer-reviewed articles and three books related to fish farm management and disease control in Vietnamese. Currently, he is leading several international projects such as CIRAS-France, Australian government grant, Vietnam-Belgium grant, and several grants funded by the Vietnam government. He is also an advisor for several aquaculture companies in Vietnam.



## Dr. Nguyen Hong Nguyen

*Senior Lecturer / University of Sunshine Coast, Australia*

Dr. Nguyen is currently teaching and coordinating Genetics and Advanced Genetics courses at USC, and is a Higher Education Academy (HEA) Fellow. Dr. Nguyen's specialist areas of knowledge include quantitative genetics, genomics, statistical genetics, genetic improvement for agricultural species, gene mapping, DNA markers, population genetics/genomics and evolution, genetic epidemiology and genomics of complex diseases. He is an Associate Editor of five international journals: *Frontiers in Genetics*, *Frontiers in Veterinary Science*, *BMC Genetics*, *Journal of Marine Science and Engineering*, *Asian Fishery Science Journal* and *International Sci*. Dr. Nguyen is passionate about teaching and learning Genetics and looks forward to opportunities to collaborate with students and colleagues to address emerging genetic and genomic research challenges.



# RESOURCE PERSONS



## Mr. Veerasun Prayotamornkul

*Thai Organic Shrimp Farming Group,  
Thailand*

Mr. Veerasun is a great proponent of Biomimicry concept that is successfully practiced in shrimp farms of Thailand and Vietnam. This concept is spreading fast to other parts of the world as a means of producing disease-free shrimp. With his technical expertise on management of organic effluents, he has pioneered the development of an efficient protocol for a water-conserving and nutritionally advantageous mode of shrimp aquaculture in Thailand.



## Mr. Ravi Kumar Yellanki

*Managing Director / Vaisakhi Bio-  
Marine (P) Ltd. & Vaisakhi Bio-  
Resources (P) Ltd., India*

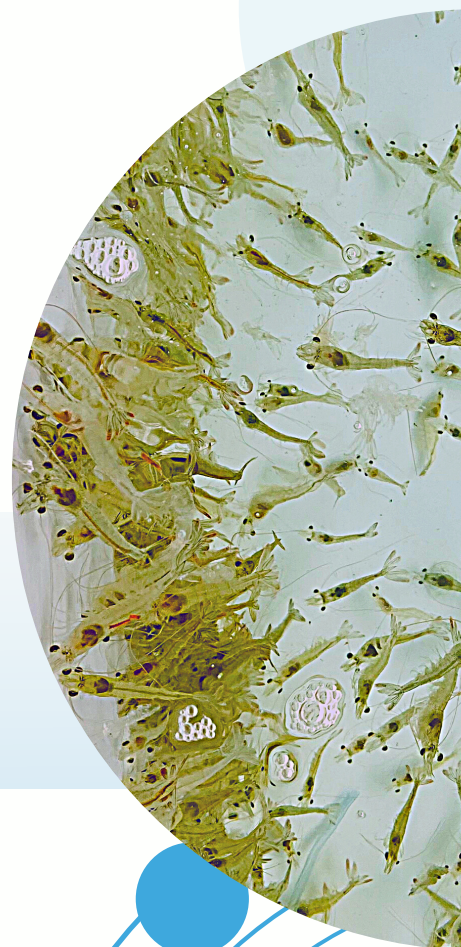
For more than 20 years, Mr. Ravi Kumar Yellanki has been familiar with the aquaculture industry in India, sharing his experience and knowledge concerning shrimp hatchery and management. Currently, his focus is on creating awareness on building sustainable strategies for Indian Shrimp Aquaculture. He is also the president of the Society of Aquaculture Professionals (SAP) of India.



## Mr. Glen Cho

*CTO / Aqua Development Ltd., Korea*

Mr. Glen Cho has developed an innovative super intensive indoor shrimp farming system named KAMI SYS based on the Aquamimicry concept applying IMTA and polyculture in Korea. KAMI SYS features an easy-to-learn, simple-to-manage, and high yielding production system for high-quality shrimp through the nature-mimicking farming method.



## CONTACT

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