Fish Health Section
Asian Fisheries Society

# Message from the Chair

Dear Colleagues,

Warm greetings and best wishes for the New Year 2026!

On behalf of Executive Committee of the Fish Health Section-Asian Fisheries Society (FHS-AFS), I take the opportunity to sincerely thank our senior colleagues, FHS members, the Convener and members of National Organising Committee of DAA12, invited experts, sponsors, and all the participants whose dedication and active involvement made the 12th Symposium on Diseases in Asian Aquaculture (DAA12) a great success. DAA12 marked an important milestone for FHS-AFS, reaffirming the strength, relevance, and unity of our regional and global network, and strong and diverse participation once again confirmed DAA as the premier platform for advancing aquatic animal health in Asia.

On behalf of the 12th Executive Committee of FHS-AFS for 2025-2028, I express my sincere gratitude for the trust and confidence placed in us. We accept this responsibility with great humility. This period represents an important transition that allows us to honour the legacy of our seniors while continuing to strengthen our Section with renewed dedication. With the guidance of our senior colleagues and the support of our members, we remain committed to nurturing future fish health leaders, expanding networks, strengthening cross-border partnerships, and ensuring that FHS-AFS continues to be a leading voice in aquatic animal health in Asia and beyond.

FHS-AFS is pleased to announce that 13th Symposium on Diseases in Asian Aquaculture (DAA13) will be held at Tokyo in 2028, and it would be hosted by Tokyo University of Marine Science and Technology, Tokyo, and Dr. Goshi Kato, Vice-Chairperson, FHS-AFS will be the Organising Chair. We warmly invite all the members to plan well before to participate in DAA13 in 2028.

With sincere regards,

**P. K. Pradhan**
Chairperson
FHS-AFS (2025-2028)

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# 12th Symposium on Diseases in Asian Aquaculture (DAA12)

**September 23–27, 2025**

The 12th Symposium on Diseases in Asian Aquaculture (DAA12) was organized by the Fish Health Section (FHS) of the Asian Fisheries Society (AFS) in collaboration with ICAR-Central Institute of Brackishwater Aquaculture (CIBA), Chennai during September 23-27, 2025, at the Grand Ballroom of Hotel Leela Palace, Chennai, India. The event brought together 470 participants including leading scientists, academicians, students, policymakers, and aquaculture industry professionals, to share the latest research and innovations in aquatic animal health. With the overarching theme 'Transformative Innovations Shaping the Future of Aquatic Animal Health Management', the symposium focused on emerging diseases, biosecurity, vaccines, diagnostics, One Health, and sustainable technologies shaping the future of aquaculture in Asia, and it included 18 keynote/lead, 49 oral and 189 poster presentations.


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**FHS-AFS (2022-2025) ExCom members at DAA12**

The symposium was inaugurated on September 23 afternoon with registration, poster setup, and sponsor exhibitions, and it was inaugurated by the Chief Guest Hon'ble Shri George Kurian, Minister of State for Fisheries, Animal Husbandry & Dairying, and Minority Affairs, Government of India, in the presence of Dr. Kua B. C., Chairperson, FHS-AFS; Dr. J. K. Jena, Deputy Director General (Fisheries Science), ICAR; Dr. B. K. Behera, Chief Executive, National Fisheries Development Board; and Dr. Kuldeep K. Lal, Convener, DAA12 and Director, ICAR-CIBA, Chennai. The inaugural session had a plenary presentation by Dr. C. V. Mohan, titled *'Aquatic animal health research and development in Asia: From 1975 to 2025 – How far have we come?'*. Dr. Mohan reflected on five decades of advances in aquatic disease diagnostics, policy frameworks, and transboundary disease control.


**Plenary presentation by Dr. C.V. Mohan**

The plenary session was followed by presentations from three countries, namely Australia, Japan, and the Philippines that had expressed interest in hosting DAA13. The presentations were made by Dr. Stephen Pyecroft (Australia), Dr. Goshi Kato (Japan), and Dr. Joseph Adrian G. Loja (Philippines). The first day concluded with a cultural program and a welcome dinner.


**Presentations by Drs. Stephen Pyecroft (Australia), Goshi Kato (Japan), and Joseph Adrian G. Loja (Philippines) for deciding the host country for DAA13**

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The second day began with Technical Session I: Finfish Health, which was chaired by Dr. Pravata Kumar Pradhan and Dr. Stephen B. Pyecroft. The Keynote speaker Dr. Andrew Shinn presented *'The Hidden billion-dollar burden: Quantifying Asia's aquatic disease crisis'*, emphasizing the significant economic losses due to disease outbreaks. Subsequently, there were two lead presentations by Dr. Sonal Jayesh Patel and Dr. P.K. Sahoo on '*Pathogen related biosecurity in Recirculating Aquaculture Systems*' and '*Fish vaccines: Global status, recent advances and Indian perspectives*', respectively. Thereafter, the oral presentations covered a range of studies, including the impacts of feed contaminants on barramundi, the immunomodulatory effects of lactoferrin, and novel therapies against *Nocardia seriolae* and Tilapia lake virus.


**Finfish Health Session: Keynote and lead presentations by Drs. Andrew Shinn, Sonal Jayesh Patel and P.K. Sahoo**

Technical Session II: Shrimp Health was chaired by Dr. Kalkuli M. Shankar and Dr. Devika Pillai. During the session, Dr. Kallaya Sritunyalucksana delivered a keynote presentation on '*Application of scientific knowledge to control EHP infection in shrimp*'. This was followed by lead presentation entitled *'Reverse genetics approaches in developing oral vaccines and therapeutics in fish and shrimp*' by Dr. Arun K. Dhar. Thereafter, the oral presentations were on white spot syndrome virus (WSSV) dynamics, Decapod iridescent virus (DIV1) surveillance, gut microbiome modulation, and genomic characterization of *Vibrio parahaemolyticus* linked to translucent post-larvae disease.


**Shrimp Health Session featured keynote and lead presentations by Drs. Kallaya Sritunyalucksana and Arun K. Dhar.**

The special session on 'Aquaculture: New Directions' was chaired by Dr. Grinson George and Dr. Celia Pitogo. Dr. Rohana P. Subasinghe made a presentation on '*Aquaculture future: An African focus*', emphasizing South-South cooperation and sustainable aquaculture models.



**Special session on 'Aquaculture: New Directions' with Dr. Rohana P. Subasinghe as the lead speaker**

On day 3, the Technical Session IV: Aquatic Animal Disease Diagnostics, Prophylactics, and Therapeutics, was chaired by Prof. Indrani Karunasagar and Dr. Basanta Kumar Das. In this session, there was a keynote presentation by Dr. Ha Thanh Dong on '*Promoting non-lethal methodologies in aquatic animal health research*' and this was followed by a lead presentation by Dr. K.V. Rajendran on '*Ecytonucleospora hepatopenaei (EHP) in Indian shrimp aquaculture- A decadal review*'. Subsequent presentations explored nanocomposite antibacterial agents, probiotic-based vaccines, and nanobubble vaccination approaches.


**Aquatic Animal Disease Diagnostics, Prophylactics, and Therapeutics Technical Session featuring keynote speaker Dr. Ha Thanh Dong and lead speaker Dr. K. V. Rajendran.**

Technical Session V on Mollusc and Seaweed Health was chaired by Dr. Kallaya Sritunyalucksana and Dr. T. Raja Swaminathan. In this session, there were two keynote presentations by Dr. Naoki Itoh and Dr. Claire Gachon on '*Field-based insights for an integrated pest management system for mollusk diseases*', and '*The diversity and ecoanthropology of algal pathogens in a rapidly changing world*', respectively.

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**Technical Session on Mollusc and Seaweed Health featured keynote speaker Dr. Naoki Itoh, and Dr. Claire Gachon, who joined the session virtually**

Technical Session VI: Emerging Technologies was chaired by Dr. Kelly Bateman and Dr. Vindhya Mohindra. During this session, Dr. Agus Sunarto delivered a keynote presentation on '*Genome engineering in aquaculture: From genetic modification to gene editing'*, followed by Dr. Eduardo Leano's lead presentation on '*Innovative technologies on alternatives to antimicrobials towards mitigation of Antimicrobial Resistance (AMR) in aquaculture*'. Thereafter, the oral presentations included cutting-edge studies including RNAi vaccines, nanosheet biosensors, and the use of microalgae for vaccine production. The day concluded with DAA12 Student Travel Awards Session, which was chaired by Dr. Shubhadeep Ghosh and Dr. Narottam Prasad Sahu. Young researchers (Brandon Rafael de Jesús Castillo-Corea, Naritoyo Ishibashi, Ashish Patige Madhusudhan, Bhupendra Singh, Kazuma Yoshimura, Shu-wen Cheng and Athiya Azzahidah) who were selected for exceptional contributions in aquatic animal health research, made the presentations.



**In the Emerging Technologies Technical Session, keynote speaker Dr. Agus Sunarto and lead speaker Dr. Eduardo Leano delivered the presentations.**

On day 4, the Technical Session VII on One Health and Aquatic Animal Biosecurity was chaired by Dr. George Ninan and Dr. Andrew Shinn. In the session, Dr. Iddya Karunasagar and Dr. Melba Reantaso jointly delivered the keynote presentation entitled *'Antimicrobial resistance and emergence of new pathogens in aquaculture in one health context'*, stressing the need for integrated surveillance and policy coordination. Thereafter, Dr. Victoria Alday-Sanz made a lead presentation on '*A call for further research on epigenetics: Examples from the field*'. This was followed by oral presentations on antimicrobial resistance profiling, epidemiological cutoff values for *Vibrio* spp., and emerging zoonotic risks associated with aquaculture systems.

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**Dr. Iddya Karunasagar and Dr. Melba Reantaso jointly delivered the keynote presentation, and Dr. Victoria Alday-Sanz made a lead presentation in the One Health and Aquatic Animal Biosecurity Technical Session**

The Technical Session VIII entitled Epidemiology, Disease Surveillance, and Reporting Session was chaired by Dr. Kenton Lloyd Morgan and Dr. Iddya Karunasagar. This session featured Dr. Edmund Peeler's keynote presentation on '*Improving early detection of aquatic animal disease: More sophistication or back to basics?*' followed by lead presentation by Dr. Neeraj Sood's overview '*Aquatic animal disease surveillance in India*'. In the afternoon, Dr. Alicia Gallardo Lagno delivered a lead presentation on '*Challenges in implementing WOAH aquatic animal disease surveillance standards*'. Thereafter, researchers shared new data on pathogen prevalence, environmental correlates of Tilapia lake virus, and innovative modelling approaches for disease transmission dynamics. The discussions reinforced the importance of harmonizing national and regional surveillance efforts in line with the World Organisation for Animal Health (WOAH) standards.



**Technical Session on Epidemiology, Disease Surveillance, and Reporting Session with keynote speaker Dr. Edmund Peeler and lead speakers Dr. Neeraj Sood and Dr. Alicia Gallardo Lagno**

The symposium concluded with a valedictory ceremony chaired by Dr. Tarun Shridhar, former Secretary, Department of Fisheries, Government of India. Dr. P.K. Pradhan, the newly elected Chairperson, Fish Health Section, AFS announced the venue for the next DAA symposium in Japan. The day concluded with the Best Oral and Poster Presentation Awards, recognizing excellence in scientific communication across technical sessions, followed by a farewell dinner sponsored by the FHS-AFS.


**Valedictory ceremony of DAA12 chaired by Dr. Tarun Shridhar, Former Secretary, Department of Fisheries, Government of India and address by Dr. Tarun Shridhar, Dr. Kuldeep K. Lal, Convenor, DAA12 &Director, ICAR-CIBA, and Dr. P.K. Pradhan, the newly elected Chairperson, FHS-AFS**

To summarise, the 12th Symposium on Diseases in Asian Aquaculture (DAA12), held in Chennai, India, reaffirmed Asia's leadership in advancing aquatic animal health science, innovation, and policy. Bringing together regional expertise, the event emphasized collective action in disease management, surveillance, and information sharing, while showcasing cutting-edge technologies such as genomics, gene editing, nanotechnology, and RNA-based vaccines. With a strong focus on sustainability and the One Health approach, DAA12 promoted integrated frameworks linking aquaculture, environmental integrity, and public health. The active participation of early-career scientists ensured continuity and capacity building within the sector. The collaborations and insights generated at DAA12 are set to guide the region's efforts toward resilient and sustainable aquaculture leading up to DAA13 to be hosted in 2028 in Japan.

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**Some moments during inauguration ceremony**






**Some interaction moments!**


**Cultural evening**

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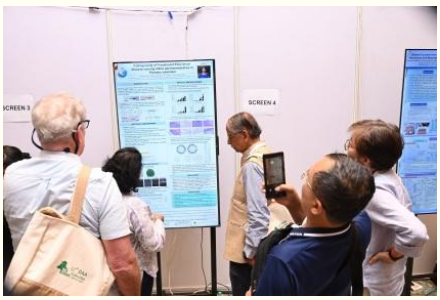
**Presentations by the delegates, and Question and Answer Sessions after presentations**

**Felicitation of exhibitors**



**Poster presentations and evaluation by the experts**

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**Felicitations of the Lead Speakers/Chairs of Sessions**




**Food court of DAA 12**

## FHS-AFS: Triennial General Meeting (TGM13)

**September 25, 2025**

On the side-lines of DAA12, FHS Triennial General Meeting (TGM13) was held on September 25, 2025, which included a welcome address by Dr. Kua B.C., Chairperson, FHS-AFS (who had joined virtually), followed by presentation and adoption of the Secretary's Report and Financial Report for the period 2022-2025 by Dr. Eduardo Leano, Secretary-cum-Treasurer, FHS-AFS, and a Report on DAA12 by Dr. P. K. Pradhan, Vice-Chairperson, FHS-AFS and Selection of ExCom for 2025-2028. During the TGM, the following members were elected to serve on the Twelfth Executive Committee (2025–2028) of FHS-AFS: Dr. P. K. Pradhan (India) as Chairperson, Dr. Goshi Kato (Japan) as Vice-Chairperson, and Prof. Desrina (Indonesia) as Secretary/Treasurer. The Committee also includes Dr. Kua Beng Chu (Malaysia, Past Chairperson), Dr. Agus Sunarto (Indonesia/Australia), Dr. HA Thah Dong (Vietnam/Thailand), Dr. Sonia Somga (Philippines), Dr. Stephen Pyecroft (Australia), Dr. Neeraj Sood (India), and Prof. Xuan Dong (China) as Members. Dr. Rohana Subasinghe, Dr. Melba Reantaso, Dr. Supranee Chinabut, and Dr. Celia L. Pitogo will serve as Senior Advisors, while the Observers are Mr. Joseph Carlo Vergel (Philippines/Japan), Ms. Shu-Wen Cheng (Taiwan), Mr. Abdul Salam Wafi Md Diah (Brunei Darussalam), and Mr. Kazuma Yoshimura (Japan).

**The Thirteenth Triennial General Body Meeting of the FHS-AFS was held in hybrid mode**

Additionally, Dr. Neeraj Sood (India) will serve as the Editor of the FHS eNewsletter, and the newly elected observers Mr. Joseph Carlo Vergel, Ms. Shu-Wen Cheng, Mr. Abdul Salam Wafi Md Diah, and Mr. Kazuma Yoshimura will act as members of the FHS eNewsletter team.


**Newly elected FHS-AFS (2025-2028) ExCom members at DAA12 along with the Chief Guest of the validectory session of DAA12 & Convenor, DAA12**

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**The newly elected FHS-AFS Executive Committee (2025–2028) was introduced during the Valedictory Session of DAA12.**

# Fish Health Section
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## Fish Health Section-Asian Fisheries Society Executive Committee (2025-28)

### Chairperson

**Dr. P. K. Pradhan (India)**
**Principal Scientist and Head,**
**Exotics and Aquatic animal Health Division,**
**Indian Council of Agricultural Research-National Bureau of Fish Genetic Resources, Lucknow, India**
**E-mail: pradhanpk1@gmail.com**

Dr. P.K. Pradhan is currently working as a Principal Scientist and Head of the Exotics and Aquatic Animal Health Division at ICAR-National Bureau of Fish Genetic Resources, Lucknow. He has over 23 years of research and academic experience which include 17 years as a researcher at ICAR-NBFGR and 6 years as an academician at the College of Fisheries, Central Agricultural University, Tripura, India. He has successfully managed 20+ research projects and authored over 70 research publications in international journals. Notable achievements include unravelling molecular mechanisms in susceptibility and resistance against infection with *Aphanomyces invadans* and tilapia lake virus disease. He played a pivotal role in developing 'OoNIL' for treating freshwater diseases like epizootic ulcerative syndrome and saprolegniosis. Dr. Pradhan actively contributes to the National Surveillance Programme for Aquatic Animal Disease. As an Assistant Professor, he provided transformative mentorship to undergraduate Fisheries Science students. Dr Pradhan has been designated as World Organization for Animal Health (WOAH) expert for infection with *Aphanomyces invadans.*

### Vice-Chairperson

**Dr. Goshi Kato (Japan)**
**Associate Professor,**
**Department of Marine Biosciences,**
**Tokyo University of Marine Science and Technology, Tokyo, Japan**
**E-mail: gkato00@kaiyodai.ac.jp**

Dr. Goshi Kato is currently an Associate Professor at the Tokyo University of Marine Science and Technology (TUMSAT). He obtained a B.Sc. (2006) of Agriculture from Utsunomiya University (Japan), M.Sc. (2008) and Ph.D. (2011) of Marine Sciences from TUMSAT (Japan). He is an active member of Japanese Society of Fish Pathology (2021-, Council Member) and Japanese Society of Fisheries Science. His field of specialization is fish immunology, bacteriology and vaccinology. He received Encouragement Award from Japanese Society of Fisheries Science in 2016, Achievement Award for Young Scientists from The Foundation of Agricultural Sciences of Japan in 2016, and Encouragement Award from Japanese Society of Fish Pathology in 2025.

# Fish Health Section
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## Fish Health Section-Asian Fisheries Society Executive Committee (2025-28)

**Secretary/Treasurer**

**Dr. Desrina (Indonesia)**
**Aquaculture Department,**
**Faculty of Fisheries and Marine Sciences,**
**Diponegoro University**
**Jl. Prof. Jacob Rais, Tembalang,**
**Semarang, 50275. Central Java. Indonesia**
**Email: rinadesrina@yahoo.com;**
**desrina001@lecturer.undip.ac.id**

Dr. Desrina is a Professor at the Aquaculture Department. She obtained her doctoral degree from the Aquaculture and Fisheries Department, Wageningen University, The Netherlands. She is a fish pathologist with 30 years- experience as a lecturer and researcher in the field of fish diseases and fish health management. Her areas of interest include bacterial diseases of fish particularly Vibriosis along with the ecology of white spot syndrome virus (WSSV) in ponds, and health assessment of blood cockles for seed production. She has been the principal investigator of research in above areas funded by Indonesian Ministry of Research, Technology and Higher Education through various funding schemes as well as international agencies. She has been an invited guest speaker at various workshops and conferences. She is also active in the Indonesian Network of Fish Health Management. Currently, she is the head of Aquaculture Department, Faculty of Fisheries and Marine Sciences, Diponegoro University, Indonesia and the Chair of Association of Indonesian Aquaculture Study Programs. She published papers in peer reviewed journals and is also a reviewer of reputable journals in the Fisheries and Aquaculture field.

**Dr. Kua Beng Chu (Malaysia)**
**Past-Chairperson (2022-2025), FHS-AFS**
**Deputy Senior Director,**
**Fisheries Research Institute**
**Headquarters, Department of**
**Fisheries Malaysia, FRI Batu Maung**
**11960 Penang, Malaysia**
**E-mail: kuaben01@dof.gov.my**

Dr. Kua Beng Chu has been a Research Officer since 1996 and is currently a Deputy Senior Director of Research, Fisheries Research Institute under Department of Fisheries, Malaysia. She obtained a Bachelor of Fisheries Science (Aquaculture) and Master of Science (Fish Health Management) from University Putra Malaysia in 1993 and 1996 respectively. She completed her Ph.D. in fish parasitology from University of Science, Malaysia in 2002. Over the past 27 years, she has been involved in research on fish health, focusing on fish parasites, pathology, disease prevention and management. She has been a Project Leader for more than 10 grants and has written more than 80 technical papers. She has patented six innovations and one of them has won the Commonwealth Secretary-General's Innovation for Sustainable Development Awards in 2021. In addition, she has written a book on Ectoparasites in Aquaculture to assist farmers to overcome the ectoparasite problems, and a series of children books on diseases in fisheries with the purpose of creating awareness to the younger generation.

# Fish Health Section
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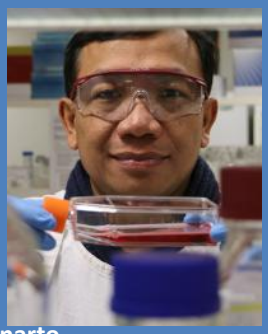
**Member (contd…)**



**Dr. Agus Sunarto**
**(Indonesia/Australia)**
**Senior Research Scientist,**
**Team Leader Aquaculture Biotechnology,**
**Commonwealth Scientific Industrial Research Organization (CSIRO), Tasmania, Australia**
**E-mail: Agus.Sunarto@csiro.au**

Dr. Agus Sunarto is a senior research scientist and Team Leader of Aquaculture Biotechnology at CSIRO, Australia. He joined CSIRO in 2013 after leading the Fish Health Research Laboratory in Indonesia, where his team first reported outbreaks of white spot syndrome virus (WSSV) in Indonesian shrimp in 1994, and koi herpesvirus (KHV) in carp in 2002. Agus holds a Ph.D. in Molecular Virology from the University of Queensland, where he discovered a new genetic lineage of KHV (C07 isolate) that is highly virulent in Australian carp. Funded by the Australian Government, the discovery led to the investigation of KHV as a biocontrol agent for invasive carp, contributing to the development of the National Carp Control Plan. Building on this expertise, Agus led Tilapia biocontrol research funded by the CISS. Modelling showed that combining viral and genetic biocontrol is the most effective strategy for invasive species, leading Agus to join CSIRO's Genome Engineering team to develop integrated solutions. His team demonstrated that gene technologies provide novel biocontrol solutions and contribute to significant improvements in aquaculture traits. Today, his team focuses on biotechnology and precision genome engineering (PGE) to deliver sustainable and resilient aquaculture.

**Dr. Neeraj Sood (India)**
**Principal Scientist,**
**ICAR-National Bureau of Fish Genetic Resources, Lucknow, India**
**E-mail: sood_neeraj@rediffmail.com**

Dr. Neeraj Sood is working as Principal Scientist in Exotics and Aquatic Animal Health Division at ICAR-National Bureau of Fish Genetic Resources, Lucknow. He has doctoral degree in Veterinary Pathology. He has 28 years of experience of working in the area of aquatic animal health and has published over 100 research articles. He has worked on understanding host-pathogen interaction of *Aphanomyces invadans* under Newton Fund Global Research Programme. He has been involved in development of new fish cell lines and monoclonal antibodies against fish immunoglobulins. He is the Consortium Principal Investigator of the National Surveillance Programme for Aquatic Animal Diseases in India.

**Dr. Stephen Pyecroft (Australia)**
**Senior Lecturer,**
**School of Animal and Veterinary Science, Faculty of Sciences, Engineering and Technology, The University of Adelaide, South Australia, Australia**
**E-mail: stephen.pyecroft@adelaide.edu.au**

Dr. Stephen Pyecroft is a Senior Lecturer in Veterinary Pathology at the University of Adelaide. He has worked in diagnostic veterinary pathology and research of animal disease for most of his 38-year veterinary career. He holds a Ph.D. from the University of Queensland where he defined systemic granulomatosis in goldfish and is a member by examination of both the chapters of Pathobiology and Aquatic Animal Health of the Australian and New Zealand College of Veterinary Scientist. His research interest is wide in scope including stem cell research in Tasmanian Devils, development of clinical biochemistry reference ranges in Southern rock lobsters and Pacific oysters, and Black soldier fly production for fish nutrition. He has supervised Ph.D. and Honours (by research) candidates, published in peer reviewed journals and textbooks, and regularly reviews journal submissions for publication. An active promotor of evidence-based science his passion is aquatic animal health and management through sustainability.

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**Members (contd…)**

**Dr. Ha Thanh Dong (Vietnam/ Thailand)**
**Associate Professor,**
**Laboratory of Aquatic Animal Health and Alternatives to Antibiotics (A4 Lab)**
**Aquaculture and Aquatic Resources Management Program**
**Asian Institute of Technology, Thailand**
**Email: htdong@ait.asia**

Dr. Ha Thanh Dong is an Aquaculture Pathologist specializing in infectious and emerging diseases, diagnostics, disease pathogenesis, host-pathogen interactions, and vaccine development for tropical fish species. His work also explores fish immunology, sustainable alternatives to antibiotics, and innovative nanobubble applications to enhance immersion vaccines. Dong has authored over 120 peer-reviewed articles, serves on advisory boards, and acts as a guest editor for several journals in his field. He was listed among the top 2% most-cited fisheries scientists worldwide by Stanford University for three consecutive years (2023-2025). He has served as an expert resource for the FAO, WOAH and WorldFish Center, and was recently appointed Adjunct Professor at James Cook University, Singapore.

**Dr. Sonia S. Somga (Philippines)**
**National Fisheries Laboratory Division**
**Bureau of Fisheries and Aquatic Resources,**
**860 Quezon Avenue, Quezon City**
**Philippines**
**Email: ssomga@bfar.da.gov.ph**

Dr. Sonia S. Somga is the Chief of the National Fisheries Laboratory Division (NFLD), Bureau of Fisheries and Aquatic Resources (BFAR), Philippines. The Division has three Sections, namely: Aquatic Toxicology Laboratory, Fish Health Laboratory, and Fisheries Product Testing Laboratory. It develops and implements laboratory methods in support of food safety control and aquatic animal health programs according to national and international standards. The laboratory is accredited with ISO/IEC 17025:2017 with the Philippine Accreditation Bureau. The NFLD also leads and implements national surveillance, monitoring and reporting programs of WOAH listed and other significant diseases of shrimp and finfishes. It also implements the food safety control program for aquaculture products at the primary production, specifically, national residue control program, and antimicrobial use and antimicrobial resistance (AMU/AMR) in aquaculture, and shellfish sanitation program. She has twenty-eight years in government service and has been working on fish health and food safety. She obtained her Doctor of Veterinary Science and Medicine degree from Central Luzon State University in 1990. She completed her Master of Science in Aquaculture at University Putra Malaysia in 1997, and later obtained a Master in Public Administration from Pamantasan ng Lungsod ng Maynila in 2022. In 2021, she was granted a Fisheries Technologist license under the provisions of the Philippine Fisheries Code of 1998.

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### Members (contd…)

**Dr. Xuan Dong (P.R. China)**
**Senior Researcher,**
**Organism Diseases Control and Molecular Pathology Division, Yellow Sea Fisheries Research Institute (YSFRI), Chinese Academy of Fishery Sciences (CAFS), Qingdao, P.R. China**
**E-mail: dongxuan@ysfri.ac.cn**

Dr. Xuan Dong has over 15 years on diverse aspects of epidemiology and biosecurity, covering diseases, diagnostics, sanitary legislation and health management. He has collaborated as an expert for international organizations such as the International Committee on Taxonomy of Viruses (ICTV), WOAH and FAO as well as the domestic organizations. He has extensive experience in establishing the enterprise level biosecurity and the national-level biosecurity. He has hosted and participated in more than 30 research projects. Dr. Dong participated in the compilation of the bulletin on the health status of aquatic animals in China and other important monographs on aquatic animal epidemic prevention. He has published more than 90 papers in peer-reviewed journals, authored 23 books, obtained 7 patents, and developed 8 standards. Dr. Dong is good at the identification of novel pathogens and engaged in the platform construction of new pathogen identification in aquatic animal. He has identified 128 novel viruses such as the Crustacea hepe-like virus 1 (CHEV1) and so on.

### Observers

**Joseph Carlo V. Vergel (Philippines/Japan)**
**Department of Marine Biosciences, Tokyo University of Marine Science and Technology, Japan**
**Email: vergelcarl@gmail.com ; d231013@edu.kaiyodai.ac.jp**

Mr. Joseph Carlo V. Vergel (The Philippines/Japan) is a MEXT scholar of Applied Marine Bioscience at Tokyo University of Marine Science and Technology, Japan. He obtained his Master's degree in Biological Sciences and BS Biology degree from University of Santo Tomas Philippines. He obtained a Diploma in Management Development Program from Ateneo Graduate School of Business and Diploma in International and Business Law from Yokohama National University, Japan. He is a Fellow of the Pioneering Intellectual Property Programme for ASEAN Young Researchers in 2020 conferred by Licensing Executives Society International and ASEAN Young Scientists Network and a Fellow of the Ocean Network Education in Southeast Asia in 2023 conferred by the Institute of Fisheries Science, National Taiwan University. He is a Consultant & Technical Panel Chair (Blue Economy - Fishery and Aquaculture) of the Department of Science and Technology - National Committee on Biosafety of the Philippines (DOST-NCBP) and a Consultant & Aquatic health management/biosecurity specialist of the FAO (Project-based). He is a member of the Fish Health Section of the Asian Fisheries Society, European Association of Fish Pathologists, Licensing Executives Society International (LESI), LES Philippines (LESP), and the Philippine Society for Cell Biology (PSCB). He has published scientific articles and reviews in the field of Blue Economy, Aquatic Molecular Biology and Biotechnology, Aquatic Immunology, Diagnostics, Aquatic Organisms Health Management, among others.

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**Observers (contd...)**

**Ms. Shu-Wen Cheng (Taiwan)**
**Ph.D. Student,**
**Department of Biotechnology and Bioindustry Sciences, National Cheng Kung University, Tainan, Taiwan**
**E-mail: l68121501@gs.ncku.edu.tw**

Ms. Shu-Wen Cheng is a Ph.D. student under the supervision of Distinguished Professor Han-Ching Wang at the Department of Biotechnology and Bioindustry Sciences, National Cheng Kung University (NCKU), Taiwan. Her research focuses on white spot syndrome virus (WSSV) infection, metabolic reprogramming, and host-virus interactions in shrimp. She is currently investigating how WSSV modulates host metabolic enzymes, specifically ATP-citrate lyase (ACLY) and acetyl-CoA synthetase (ACSS), to regulate cytosolic acetyl-CoA production and lipid metabolism during viral replication. Her studies aim to elucidate the molecular mechanisms by which WSSV reprograms host metabolism to facilitate efficient viral propagation.

**Abdul Salam Wafi Md Diah (Brunei)**
**Fisheries Officer,**
**Block A, Muara Fisheries Complex,**
**Department of Fisheries, Kg. Serasa,**
**Brunei Darussalam, Brunei**
**E-mail: wafi.diah@fisheries.gov.bn**

Mr. Abdul Salam Wafi Md Diah is a Fisheries Officer and Head of the Diagnostics Unit at the Aquatic Animal Health and Laboratory Services Centre, Department of Fisheries, Brunei Darussalam. He completed his Master's degree in Aquaculture (By Research) at Sultan Sharif Ali Islamic University (UNISSA), where his research focused on the effectiveness of mechanical control methods for marine leech infestations in groupers. Mr. Diah holds professional certifications in Bio risk Management, Biosecurity, and Biological Risk Assessment from the International Federation of Biosafety Associations. He also serves as Secretary and National Focal Point for several national committees and ASEAN working groups related to fisheries, biosafety, and antimicrobial resistance. His professional interests include aquatic animal health, biosecurity, antimicrobial resistance, and sustainable aquaculture practices.

**Mr. Kazuma Yoshimura (Japan)**
**Ph.D. Student,**
**Laboratory of Genome Science**
**Tokyo University of Marine Science and Technology, Japan**
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Mr. Kazuma Yoshimura obtained his Bachelor degree and Master's degree of Marine Science from Tokyo University of Marine Science and Technology in 2022 and 2024, respectively. He goes on to a doctoral course, doing a research fellowship (JSPS) at the laboratory of genome science in TUMSAT in 2025. His main research area is genome characterization of Megalocytiviruses, fish immune system and development of DNA vaccine using novel technology.

# Advancing Aquatic Animal Health Systems in the Asia-Pacific: WOAH Activities in 2025

***By: WOAH-RRAP***


In 2025, the World Organisation for Animal Health (WOAH) Regional Representation for Asia and the Pacific (RRAP) supported Members in the Asia-Pacific region to strengthen aquatic animal health systems through targeted activities on farm-level biosecurity, antimicrobial use (AMU) monitoring, and disease reporting, aligned with the WOAH 7th Strategic plan (2021-2025) and the WOAH Aquatic Animal Health Strategy.

From May 6-9, 2025, a Training Workshop on Farm-Level Biosecurity Assessment in Small-Scale Aquaculture was held in Bangkok, Thailand to strengthen countries' capacity to assess and improve farm-level biosecurity. Participants from five countries were trained to apply a standardized questionnaire through facilitated exercises and a site visit, and reached consensus on the final questionnaire and adoption of a productivity index to support consistent biosecurity assessment and data collection.

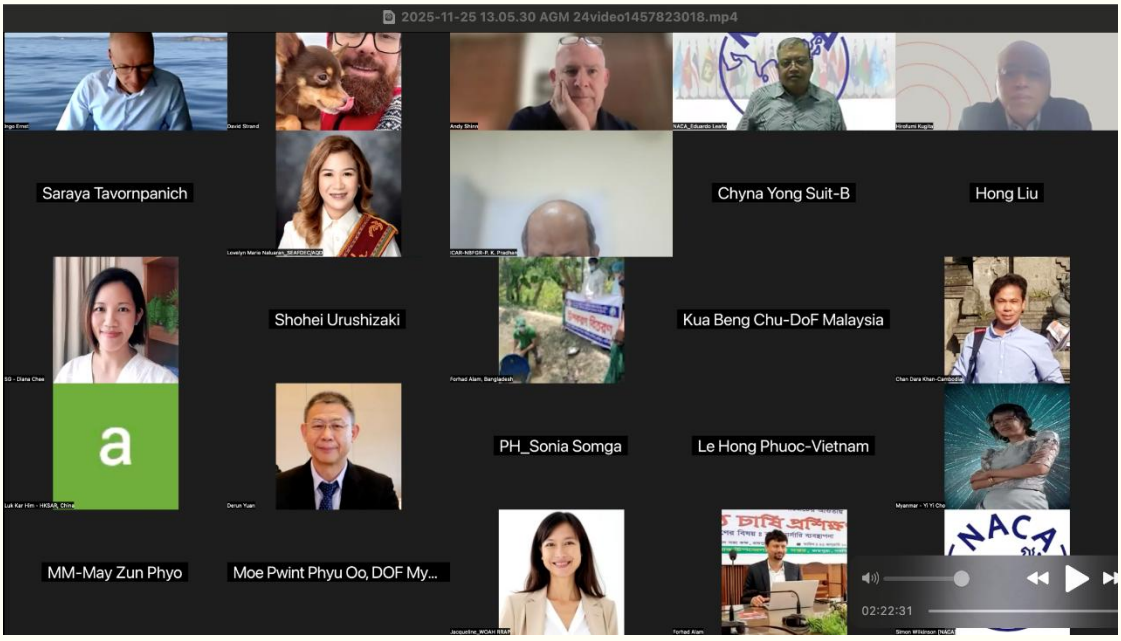
To address antimicrobial resistance (AMR) under the One Health framework, WOAH RRAP convened a Regional Workshop on Implementing the Guidelines on Monitoring of Field-Level AMU in the Aquatic Animal Sector for Asia from 1 to 4 December 2025. The workshop strengthened countries' capacity to generate reliable AMU data through practical training on monitoring objectives, data collection and analysis, including use of the ANImal antimicrobial USE (ANIMUSE) Global Database, and development of draft AMU surveillance frameworks.


Building on this work, a follow-up in-country implementation mission was conducted in the Philippines on 10–11 December 2025 in collaboration with the Bureau of Fisheries and Aquatic Resources (BFAR) of the Department of Agriculture (DA) of the Philippines. Farm visits in the provinces of Nueva Ecija and Zambales supported piloting and validation of an AMU field-level questionnaire and supported the institutionalization of AMU monitoring, a key objective in the country's National Action Plan on AMR.

Beyond these activities, WOAH RRAP coordinated with the Network of Aquaculture Centres in Asia-Pacific (NACA) to strengthen integration between the WAHIS and QAAD reporting systems, enhancing the timeliness and accuracy of aquatic animal disease reporting across the region. Overall, these activities contributed to strengthening regional capacity, improved data-driven decision-making, and supported sustainable aquaculture development in the Asia-Pacific region.

## 24th Meeting of the Asia Regional Advisory Group on Aquatic Animal Health

**November 24-25, 2025**




The 24th Meeting of the Asia Regional Advisory Group on Aquatic Animal Health (AGM 24) was organized by the Network of Aquaculture Centres in Asia-Pacific (NACA) during November 24-25, 2025 in a fully virtual platform. The meeting was attended by:

- 9 members and co-opted members including experts from the region and representatives of NACA partner organisations (WOAH-RRAP, WOAH-AAHSC, SEAFDEC AQD, and INVE Aquaculture); and,
- 14 observers from National Parks Board (Singapore), Norwegian Veterinary Institute (Norway), and representatives of NACA member countries including Australia, Bangladesh, Cambodia, Hong Kong, India, Malaysia, Myanmar, the Philippines, Singapore, Sri Lanka and Vietnam

Important updates and issues on aquatic animal health management in the Asia-Pacific region were discussed including:

- Progress since AGM 23 (Dr. Eduardo Leaño, NACA)
- Updates from WOAH Aquatic Animal Health Standards Commission (Dr. Ingo Ernst, AAHSC, WOAH)
- Regional aquatic animal health activities of SEAFDEC AQD (Ms. Lovelyn Marie Naluaran, SEAFDEC AQD)
- The hidden highways of death: Critical biosecurity insights for shrimp production (Dr. Andy Shinn, INVE Aquaculture)
- Advancing the Biosurveillance of Emerging Aquatic Pathogens in Singapore with Environmental DNA (Dr. Brian Tan, NParks, Singapore)
- eDNA for disease detection and to support surveillance program of crayfish plaque (Dr. David Strand, NVI)
- AP Aquatic Animal Disease Reporting: status and updates (Dr. Eduardo Leaño, NACA)
- New Aquatic Animal Disease Reporting: Proposal (Dr. Hirofumi Kugita, WOAH-RRAP)

The report of the meeting is being prepared and will be published at NACA website (www.enaca.org) within the first quarter of 2026.

## A new World Organisation for Animal Health (WOAH) Reference Laboratory for *Aphanomyces invadans* (Epizootic Ulcerative Syndrome)

The Aquatic Animal Health Laboratory, Exotics and Aquatic Animal Health Division, ICAR-National Bureau of Fish Genetic Resources (NBFGR), Lucknow, has been designated as a World Organisation for Animal Health (WOAH) Reference Laboratory for *Aphanomyces invadans* (Epizootic Ulcerative Syndrome) with Dr. P. K. Pradhan, Principal Scientist and Head, Exotics and Aquatic Animal Health Division, ICAR-NBFGR, Lucknow as the designated expert.

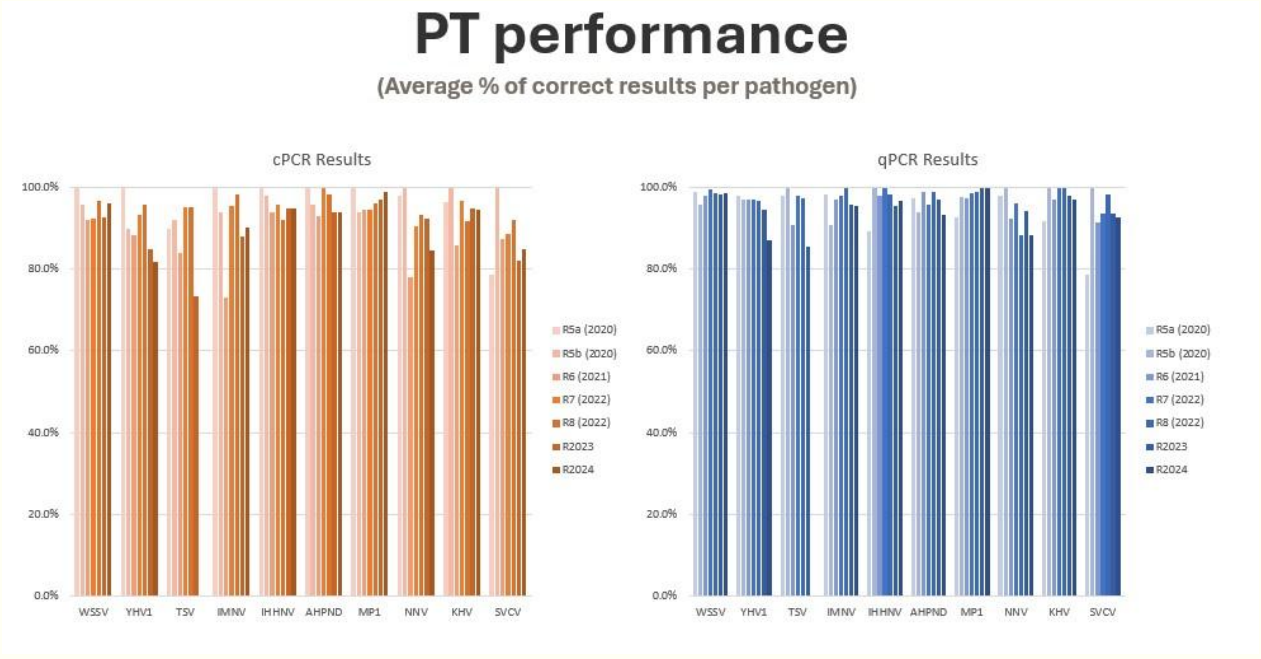
# The Asia Pacific Laboratory Proficiency Testing Program for Aquatic Animal Diseases

*Yuko Hood, Australian Government Department of Agriculture, Fisheries and Forestry (yuko.hood@aff.gov.au)*

The Asia Pacific Laboratory Proficiency Testing program for Aquatic Animal Diseases (APL-PT Program) is an Australian Government initiative managed by the Department of Agriculture Fisheries and Forestry (DAFF), in collaboration with the Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australian Centre for Disease Preparedness (CSIRO-ACDP). Within ACDP, the program is jointly delivered by the Proficiency Testing Team, an ISO-accredited proficiency testing provider responsible for program design and coordination, and the Fish Diseases Laboratory, which develops high-quality test materials and undertakes critical quality assessments, including sourcing exotic disease materials through international partners.

Operating in various forms since 2012 and now underway for the 2025 to 2028 period, the APL-PT Program includes up to 65 laboratories from more than 20 countries across the Asia-Pacific region. Its core objective is to strengthen regional capability to accurately diagnose transboundary aquatic animal diseases that affect trade, productivity, and environmental sustainability. This role is increasingly important as production and trade continue to expand rapidly across the region.

Since the program's inception, participating laboratories have shown marked and sustained improvements in diagnostic performance. Early PT rounds demonstrated a clear upward trend in accuracy, and more recent results show consistently high performance across the network, confirming the program's effectiveness in building reliable and harmonised diagnostic capability.




**Overall performance of participating laboratories in the APL-PT Program, 2020–2024**

Beyond testing performance, the APL-PT Program plays a critical role in supporting national surveillance, trade assurances, and quality assurance systems. In a region where no comparable international aquatic animal disease PT program exists, it provides a unique and essential platform for laboratories to benchmark performance, identify gaps, and continually improve diagnostic standards.

In August 2025, DAFF and CSIRO-ACPD partnered with the Network of Aquaculture Centre in Asia-Pacific (NACA) to host an APL-PT Collaboration and Strategy Workshop in Bangkok, Thailand. The workshop brought together 45 participants form 42 laboratories across 12 Asia-Pacific countries (Figure 2) and provided a valuable opportunity for direct engagement between laboratories and program coordinators.


**Participants at the 2025 APL-PT Regional Collaboration and Strategy Workshop in Bangkok**

Through expert presentations, practical discussions, and structured breakout sessions, participants strengthened their understanding of proficiency testing processes, quality assurance and ISO requirements, method validation, laboratory workflows, and contamination control. The workshop also enabled participants to share common challenges, identify practical solutions, and provide feedback to help guide the future direction of the APL-PT Program, including pathogen priorities and portal improvements. Overall, the event reinforced regional collaboration, built confidence in laboratory diagnostic capability, and supported the collective capacity to detect and manage transboundary aquatic animal diseases.

# Fish Health Section
## Asian Fisheries Society

## 13th Symposium on Diseases in Asian Aquaculture (DAA13)


Fish Health Section of the Asian Fisheries Society is pleased to announce that the 13th Symposium on Diseases in Asian Aquaculture (DAA13) will be held in Tokyo, Japan, in September 2028. The symposium will be hosted by Tokyo University of Marine Science and Technology. Tokyo is widely recognized as a centre of excellence in fish pathology, where many leading experts from across Asia have studied and received training. DAA13 will provide an excellent platform to share knowledge, present current research developments, renew old friendships, and establish new collaborations.

We warmly welcome researchers, professionals, and all those involved in fish diseases and aquatic animal health to participate in discussions on the future direction of aquatic animal health in Asian aquaculture. In addition to the scientific program, participants will have the opportunity to enjoy Tokyo's many attractive tourist destinations, as well as a field trip to the Tateyama Station of Tokyo University of Marine Science and Technology.

We look forward to welcome you to Tokyo for DAA13!

**Our destination attractions**


Zojoji Temple


Hamarikyu Gardens

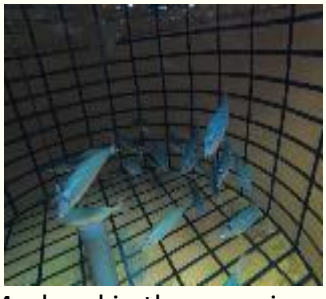

Asakusa


Toyosu Senkyaku Banrai

**Field Trip to Tateyama Station**


Exterior of station


Indoor aquarium


Mackerel in the aquarium


Experimental aquarium

Fish Health Section
Asian Fisheries Society

## Indonesian Network on Fish Health Management (INFHEM) Holds Series of Congress Activities in 2025

The Indonesian Network on Fish Health Management (INFHEM) is a professional organization dedicated to advancing fish health systems in Indonesia by bridging academics, researchers, government, and fisheries industry stakeholders. In accordance with its Bylaws, INFHEM convenes a congress every four years, and the 2025 Congress was preceded by a Focus Group Discussion (FGD) held on August 30, 2025, which highlighted two strategic priorities: the implementation of animal welfare principles in aquaculture and research, and the strengthening of INFHEM's role at regional and global levels. The FGD emphasized that ethical aquaculture and adherence to animal welfare standards, including the application of the 3R principles in research, are essential for sustainable development and access to international markets, while also underscoring the importance of international collaboration with organizations such as WOAH, FAO, and NACA. The INFHEM Congress, held online on September 6, 2025, reviewed organizational progress, accepted the accountability report for the 2021-2024 period, and outlined future strategies to enhance member engagement and institutional capacity. The congress appointed Prof. Dr. Murwantoko as Chairperson for the 2025-2028 term, supported by a newly formed management team and a Board of Trustees representing key national and international institutions. With renewed leadership, INFHEM aims to function as a more professional, responsive, and globally connected organization, serving as a strategic partner to the government in safeguarding fish health and ensuring the sustainability of Indonesia's aquaculture sector.

## FHS-AFS Executive Committee (2025-2028)



**The editorial team expresses its sincere thanks to all the members who have contributed to the eNewsletter. The next issue of eNewsletter is being planned in January 2027. All the members are requested to share important news or other information that would be useful for the members of FHS.**

**eNewsletter Editorial Team**