



Fish Health Section

Asian Fisheries Society

Message from the Chair

Dear FHS Colleagues,

Greetings and Happy New Year 2022! I hope you had a great holiday period and are feeling fresh and rejuvenated for the new year.

I sincerely hope that you are finding your way safely through the difficulties that this COVID-19 pandemic has presented, and I wish you good health as we all continue to navigate these challenges. Due to the pandemic, the 11th Symposium on Diseases in Asian Aquaculture (DAA11) has been rescheduled to 23 - 26 August 2022 in Kuching, Malaysia <https://www.daa11.org/>. The triennial symposium will be held as a virtual event, along with face-to-face Malaysian Farmer Day. We're monitoring the situation closely and will keep the members informed with the developments. Huge thanks to Dr Kua Beng Chu and the National Organising Committee for their effort of navigating the difficult processes of organising DAA11 in this challenging time.

To keep the FHS-AFS members and fish health community connected, the FHS-AFS is organising 'Virtual Seminars on the Path to DAA11'. We have successfully organised four webinars, which were attended by 1,380 participants in total with average of 345 participants from 24 countries per event. We are grateful to the keynote speakers for sharing their expertise and experience on diverse fields of aquatic animal health. Big thanks to Dr Eduardo Leano, Secretary-Treasurer of FHS-AFS, for hosting the Series and Dr Huang Jie, Director General of NACA, for facilitating the webinars. We also thank the participants for taking the time to attend the webinars and for providing positive feedback including proposing topics for the next seminars. The upcoming seminar on viral diseases will be held in April 2022. Please let us know if you have any favourite speakers to consider.

We sadly lost two pioneers of our field last year. On 5 May, Prof Donald V. Lightner passed away in Tucson, Arizona, USA, and on 10 August Prof Kasai Hatai passed away in Tokyo, Japan. Thanks to Dr Arun K. Dhar and Prof Kevin M. Fitzsimmons, and Dr Melba B. Reantaso for writing up memoirs for Prof Lightner and Hatai Sensei, respectively. They will be missed by our Society not only as brilliant scientists but also as colleagues, friends and mentors for many of us.

In this Edition, you will also find information on new aquatic animal disease reporting for Asia and the Pacific and an invasive disease linked to raw freshwater fish. We also captured activities on aquatic animal health related to the region including Consultation on strategies for EHP, 20th Meeting of the Asia Regional Advisory Group on Aquatic Animal Health, FAO virtual course on surveillance for TiLV and Seminar on tilapia health, and upcoming 3rd International Conference in Aquatic Animal Epidemiology to be held in New Delhi in November 2022.

I hope you will enjoy our newsletter and share our stories with colleagues in your countries. We express our deepest gratitude for your continuing support of our Society. Last but not least, we thank our fabulous Editorial Team for successfully publishing high quality eNewsletter annually since 2017.

Best wishes for a healthy and happy 2022!

Dr. Agus Sunarto
Chairperson FHS-AFS
Email: Agus.Sunarto@csiro.au



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11th Symposium on Diseases in Asian Aquaculture (DAA11)

(23-26 August 2022)

Due to COVID-19 pandemic and following extensive deliberations between the DAA11 Organizing Committee members including the Government of Malaysia; it is confirmed that the face-to-face 11th Symposium on Diseases in Asian Aquaculture (DAA11) could not take place.

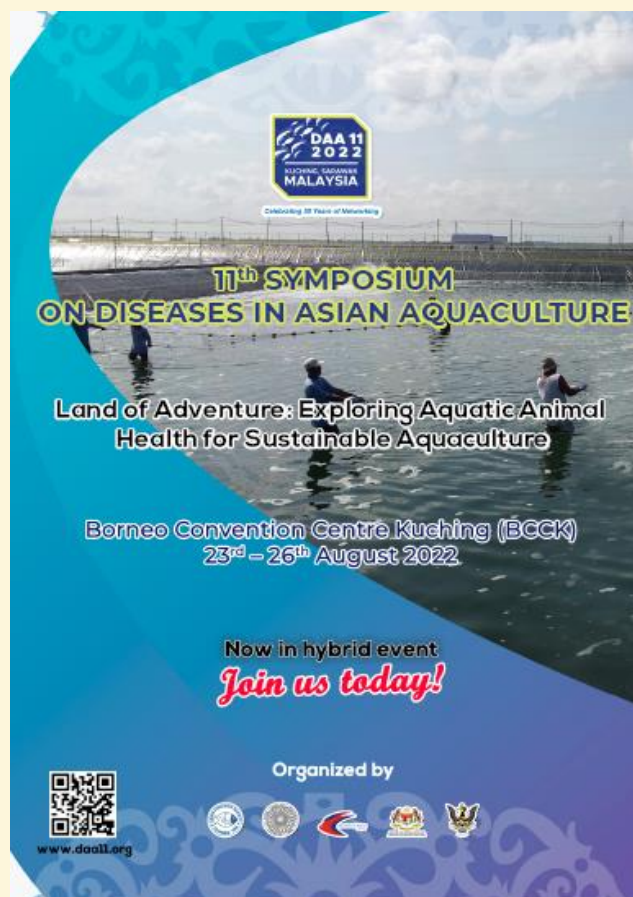
After considering the concerns related to health and safety of participants, the Government of Malaysia and DAA11 Organizing Committee, therefore, agreed to postpone the 11th Symposium on Diseases in Asian Aquaculture until 2022. On behalf of the Committee, we apologize for any inconvenience caused.

We are pleased to inform that we have rescheduled DAA11 to 23 – 26 August 2022 in Kuching, Sarawak, Malaysia. All papers, panels, posters, roundtables that have been submitted to DAA11 2020 will be automatically accepted for the upcoming DAA11 2022. Keynote speakers, sponsors and exhibitors will be informed individually to discuss future involvement.

The latest development will be updated on our official website: daa11@dof.gov.my

The DAA11 marks 33 years of FHS-AFS establishment and it will be held in Malaysia. Local hosts, the Department of Fisheries, Malaysia under the Ministry of Agriculture and Food Industries together with the Ministry of Modernisation of Agriculture, Native Land and Regional Development Sarawak will be organizing the event in cooperation with the FHS-AFS.

With the theme of the symposium, “Land of Adventure: Exploring Aquatic Animal Health for Sustainable Aquaculture”, it offers an exciting range of comprehensive and scientific programme covering a variety of industry-specific topics, from epidemiology to the latest trend of management in shrimp and fish diseases. The DAA11 starts on Tuesday 23rd August 2022 and end on Friday 26th August 2022. We look forward to see you all at DAA11.





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FHS Virtual Seminars on the Path to DAA11

In continuation of the webinar being organized by the Fish Health Section (FHS) of the Asian Fisheries Society (AFS), three webinars were organized during the year 2021.

Pathogen Free: Non-infectious Diseases and Disorders of Aquatic Animals (21 April 2021)

The 2nd webinar entitled 'Pathogen Free: Non-infectious Diseases and Disorders of Aquatic Animals' was held on 21st April 2021 and attended by 233 participants from 20 countries and territories (Australia, Bangladesh, Belgium, Egypt, India, Indonesia, Italy, Japan, Malaysia, Myanmar, Pakistan, Philippines, Saudi Arabia, Singapore, Taiwan, Thailand, Turkey, United Arab Emirates, USA, Vietnam). Renowned experts working on non-infectious diseases in the region and in the world were invited to make presentation during the webinar. The experts included Prof. George Iwama from Quest University, Canada; Prof. Orapint Jintasataporn from Kasetsart University, Thailand; Prof. Lim Po Teen from University of Malaysia, Malaysia and Dr. Roger Chong from CSIRO, Australia.

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Virtual Seminars on the Path to DAA11
(<https://www.daa11.org>)

Pathogen Free: Non-infectious Diseases and Disorders of Aquatic Animals
(A Webinar)
21 April 2021
12:00-15:00 BKK time; GMT+7

SPEAKERS:

- PROF. GEORGE IWAMA (Quest University, Canada) "Stress-related non-infectious disorders in fish"
- PROF. ORAPINT JINTASATAPORN (Kasetsart University, Thailand) "Nutritional diseases of aquatic animals"
- PROF. LIM PO TEEN (University of Malaya, Malaysia) "Harmful algal blooms (HAB) and fish kills"
- DR. ROGER CHONG (CSIRO, Australia) "Aquaculture ecotoxicology"

To join, please register in advance.

Fish Vaccination: Theory, Innovations and Application (4 August 2021)

The third webinar of the series was held on 4th August 2021 and attended by 509 participants from 32 countries and territories (Australia, Austria, Bangladesh, Canada, Cambodia, China, Croatia, France, Greece, India, Indonesia, Italy, Japan, Kenya, Korea RO, Kuwait, Malaysia, Myanmar, Nepal, Norway, Pakistan, Philippines, Singapore, Spain, Sri Lanka, Taiwan, Thailand, Turkey, United Kingdom, USA, Vietnam and Yemen). Eminent speakers during the webinar included Dr. Kim Thomson, Moredun Research Institute, United Kingdom; Dr. Win Surachetpong from Kasetsart University, Thailand and Dr. Roberto Cascione from Virbac, Thailand.

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Virtual Seminars on the Path to DAA11
(<https://www.daa11.org>)

Fish Vaccination: Theory, Innovations and Application
(A Webinar)
4 August 2021
13:00-15:00 BKK time; GMT+7

SPEAKERS:

- DR. KIM THOMPSON (Moredun Research Institute, United Kingdom) "Overview of fish vaccination - from principles to applications"
- PROF. WIN SURACHETPONG (Kasetsart University, Thailand) "Tilapia lake virus: Understanding the host immunity and challenges for vaccine development"
- DR. ROBERTO CASCIONE (VIRBAC, Thailand) "Fish vaccine: from vaccine development to field applications"

To join, please register in advance.

Video recordings of above two webinars are available at FHS website (www.fhs-afs.net).



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Small and Terrible! Significant Bacterial Diseases in Aquaculture (8 December 2021)

The 4th webinar of the series was held on 8th December 2021. A total of 239 participants from 20 countries and territories (Australia, Bangladesh, Belgium, Brunei Darrusalam, China, Hong Kong, India, Indonesia, Israel, Korea RO, Malaysia, Myanmar, Philippines, Singapore, Sri Lanka, Taiwan, Thailand, United Kingdom, USA, and Vietnam) attended the webinar. Distinguished speakers in the webinar included Prof. Indrani Karunasagar from Nitte University, India; Prof. Han-Ching Wang, National Cheng Kung University, Taiwan and Dr. Pikul Jiravanichpaisal, Manit Genetics Co. Ltd., Thailand.

PDFs and video recordings of presentations are available at FHS website (www.fhs-afs.net).

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Virtual Seminars on the Path to DAA11 (<https://www.daa11.org>)

**Small and Terrible!
Significant Bacterial Diseases in
Aquaculture**
(A Webinar)
8 December 2021
13:00-16:00 BKK time; GMT+7

SPEAKERS:

PROF. INDRANI KARUNASAGAR
(Nitte University, India)
"Overview of bacterial diseases of aquatic animals"

PROF. HAN-CHING WANG
(National Cheng Kung University, Taiwan)
"Relationship between shrimp gut health, microbiota and AHPND"

DR. PIKUL JIRAVANICHPAISAL
(Manit Genetics Co., Ltd, Thailand)
"The gut as the first line of defence against bacterial diseases: Comparing fish and shrimp"

To join, please register in advance

New Aquatic Animal Disease Reporting for Asia and the Pacific from January 2021

The new OIE World Animal Health Information System (OIE-WAHIS) was initially launched in 2020, with an aim to develop a modern and dynamic platform to ease the burden on Members to collect and report information on the global animal health situation to the OIE, as well as to make animal health information more easy-access and usable to the public.

In this regard, OIE and NACA also planned the establishment of a Regional Core online reporting system for non-OIE listed aquatic animal diseases of regional importance in Asia and the Pacific under the new OIE-WAHIS Six-Monthly Report (SMR) module. Before the launch of the OIE WAHIS release two, and in order to create a more user-friendly reporting system and adapt to the trends of on-line reporting, submitted data will be validated by OIE RRAP and NACA and published on the dedicated page of the OIE Regional website

(<https://rr-asia.oie.int/en/projects/regional-aquatic-animal-disease-report-from-2021/>) and NACA website (<https://enaca.org/?id=8>) where anyone can access disease reports submitted by member countries in chronological order.

All Members are now invited to submit all the monthly data as soon as available to OIE RRAP (rr.asiapacific@oie.int) and NACA (eduardo@enaca.org) with their OIE Delegate in copy to ensure the timeliness of the disease information. Data should be approved and validated by the OIE Delegate or the Focal Point for Disease Notification prior to submission. With the new template for disease reporting (2021) distributed to all members, the new AAD monthly reporting will be a rolling report containing all the disease information from January of each year.

Source: <https://enaca.org/?id=1165>



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Online Consultation on Strategies for Hepatopancreatic Microsporidiosis caused by *Enterocytozoon hepatopenaei* (EHP)

(9-10 February 2021)

Invited Experts:



Dr. Kallaya Sritunyalucksana



Prof. Tim Flegel



Dr. Andy Shinn



Dr. Celia Lavilla-Pitogo



Dr. Diva Cano

Online Consultation on Strategies for Hepatopancreatic Microsporidiosis caused by *Enterocytozoon hepatopenaei* (EHP)

9-10 February 2021
13:00-16:00 (BKK time; GMT+7)

TOPICS:

- History of Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei*.
- Development of research tools for EHP pathogenesis and control.
- Updates on EHP transmission route in shrimp and recommendations for its control in the farm.
- Managing the hazard of *Enterocytozoon hepatopenaei* in shrimp farming through careful planning to optimize productivity.
- Is the fungal pathogen EHP now the key health concern for Asian shrimp producers?

Plus country status presentations by experts from **China, India, Indonesia, Malaysia, Myanmar, Philippines, Thailand and Vietnam**



The Network of Aquaculture Centres in Asia-Pacific has organized an “Online Consultation on Strategies for Hepatopancreatic Microsporidiosis caused by *Enterocytozoon hepatopenaei* (EHP)” from 9-10 February 2021 via Zoom. EHP is an important pathogen affecting cultured shrimps. The online consultation, which was attended by 496 participants from all over the world, aimed to discuss the current status of EHP in the region, and presented recent innovations and currently recommended strategies of control (including information to give confidence that EHP cannot be spread via chilled or frozen export products prepared and packaged for human consumption).

Key presentations were delivered by renowned experts from the region including:

- History of hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (Prof. Timothy Flegel)
- Development of research tools for EHP pathogenesis and control (Dr. Kallaya Sritunyalucksana)

- Managing the hazard of *Enterocytozoon hepatopenaei* in shrimp farming through careful planning to optimize productivity (Dr. Celia Lavilla-Pitogo)
- Updates on EHP transmission route in shrimp and recommendations for its control in the farm (Dr. Diva Cano)
- Is the fungal pathogen EHP now the key health concern for Asian shrimp producers? (Dr. Andy Shinn)

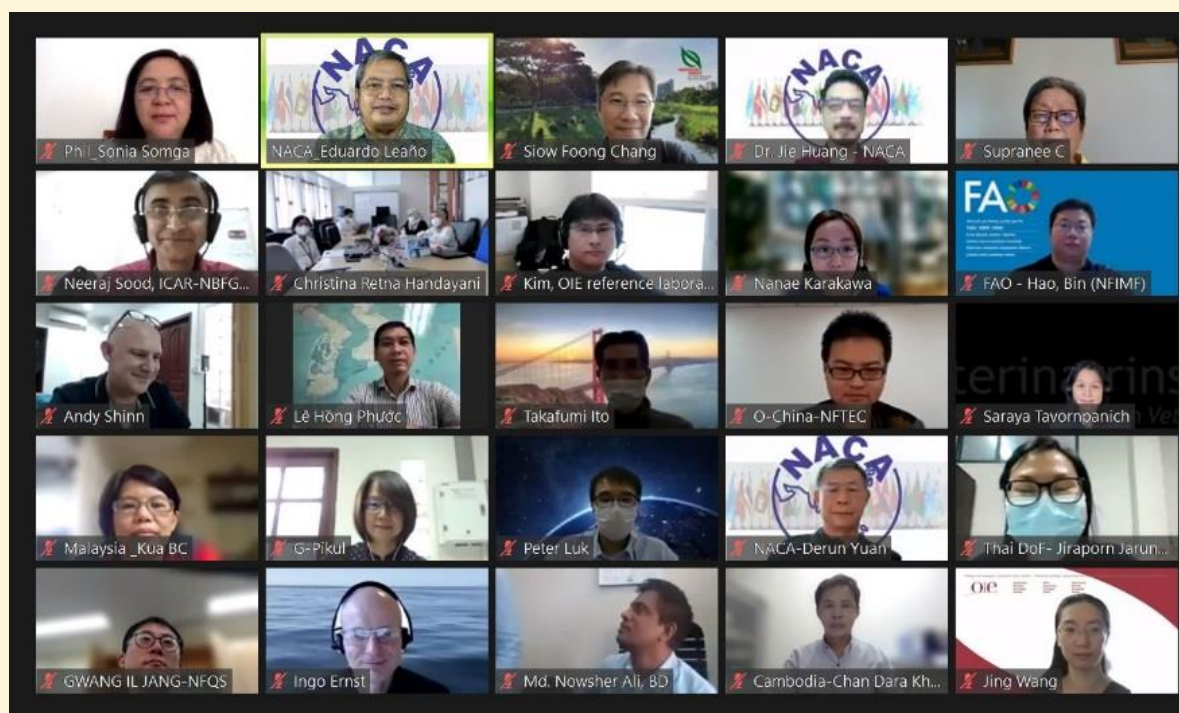
Moreover, experiences from countries which have reported the presence of the disease were presented and discussed including: monitoring, surveillance and reporting; recent and current research studies; and, problems and other issues/gaps in managing the disease especially at the farm level. Countries (and presenters) were: P.R. China (Dr. Chenxu Cai); India (Dr. Neeraj Sood); Indonesia (Dr. Bambang Hanggono); Malaysia (Dr. Kua Beng Chu); Myanmar (Dr. Kay Lwin Tun); Philippines (Dr. Sonia Somga); Thailand (Dr. Jumroensi Thawonsuwan); and, Vietnam (Dr. Nguyen The Hien).



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20th Meeting of the Asia Regional Advisory Group on Aquatic Animal Health (4-5 November 2021)



The 20th Meeting of the Asia Regional Advisory Group on Aquatic Animal Health (AGM 20) was organized by the Network of Aquaculture Centres in Asia-Pacific on 4-5 November 2021 via the Zoom platform. The meeting was attended by 13 members and co-opted members, and 15 observers composed of representatives from 10 NACA member governments, OIE-RRAP, Japan and South Korea.

Topics discussed during the two-day meeting include:

- Updates on NACA's Asia Regional AAH Programme (Dr. Eduardo Leaño, NACA)
- Updates from OIE Aquatic Animal Health Standards Commission (Dr. Ingo Ernst, OIE-AAHSC)
- Aquaculture Biosecurity (Dr. Bin Hao, FAO)
- A systematic approach for quantifying biosecurity measures in aquaculture (Dr. Saraya Tavoranpanich, NVI)
- The OIE Aquatic Animal Health Strategy 2021-2025: Overview and its relevance to the AP region (Dr. Stian Johnsen, OIE HQ)
- Updates on OIE Regional Collaboration Framework on Aquatic Animal Health Management in Asia and the Pacific (Dr. Jing Wang, OIE-RRAP)
- Updates on QAAD Reporting and disease list (Dr. Eduardo Leaño, NACA)

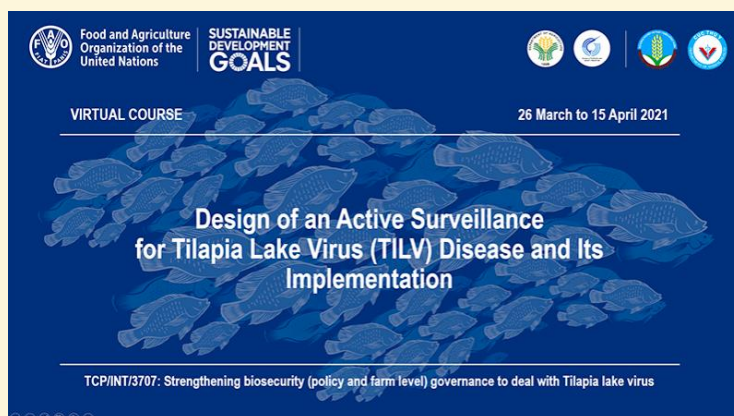
The report of the meeting is being prepared and will be published at NACA website (www.enaca.org) within the first quarter of 2022.



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FAO virtual course on the Design of an Active Surveillance for Tilapia Lake Virus (TiLV) disease and its Implementation



This training course was organised under the auspices of the FAO inter-regional project TCP/INT/3707: Strengthening biosecurity (policy and farm level) governance to deal with TiLV. Four countries participated in this project, namely Colombia, the Philippines, Viet Nam and India. A 12-point checklist in the design and practical application of active surveillance of diseases in aquatic organisms (farmed and wild population) developed to serve as a methodological approach and guidance for a multidisciplinary team was demonstrated to the participants. The approach is

stepwise and pragmatic, and offers a good starting point for addressing disease issues especially in developing countries. It can also be used as a model to build targeted surveillance competency and a basic reference when implementing a surveillance programme or improving existing programmes. The checklist has been developed on basis of review of available main aquatic surveillance references and scientific literature and was further developed based on the outcomes of several aquaculture biosecurity project-related workshops hosted by the FAO.

International Technical Seminar on Tilapia Health

(1-3 December 2021)

The 3-day virtual event was organised by Food and Agricultural Organisation of the United Nations during December 1-3, 2021 to bring together multidisciplinary expertise from the industry, governance authorities and academe/research to view, from their respective lenses, the tilapia sector, its health and the future. The presentations on Day 1 focused on industry trends and the future whereas days 2 and 3 stressed on healthy production for good food and better livelihood.





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Donald V. Lightner : An Obituary (1945-2021)



On May 05, 2021, Prof. Donald V. Lightner passed away in Tucson, Arizona, USA. On that day, the world of aquatic animal health lost a trailblazer and an icon. Throughout his career that spanned over 40 years, he played a seminal role in bringing shrimp aquaculture from utter obscurity and insignificance to a major global industry supporting the lives and livelihood of millions of people around the world, both directly and indirectly.

Lightner first became interested in the diseases of aquatic animals when he worked as a technician in a trout farm for the Colorado Game and Fish Department. The trout farm was suffering significant losses from a common disease of farm-raised trout, so the farm manager began a treatment for the disease without first checking the hardness of the source water. By the time the "treatment" was complete, several tons of trout had died and Lightner was assigned the task of burial of those fish. From the experience of that incident, he focused his graduate studies on becoming a fish pathologist. In 1971, he received his PhD in Fish Pathology from Colorado State University in 1971. After his Education, he took a position at the National Marine Fisheries Laboratory in Galveston, Texas working with the team developing basic methods of captive culture

of shrimp.

In 1975 he moved to the University of Arizona and continued to work on infectious diseases and shrimp health at the station in Puerto Peñasco, Mexico, and the UA-Marine Culture Enterprise project in Hawaii.

In the mid-1970's, Dr. Lightner founded the Aquaculture Pathology Laboratory at The University of Arizona. He assembled a team of researchers that included his wife, Rita Redman, and researchers Tom Bell, Kenneth Hasson, Carlos Pantoja, Kathy Tang, Bonnie Polous, Linda Nunan, Leone L. Mohny, Solangel Navarro, Brenda Noble, Paul Schofield, and J. R. Bonami and J. Mari (visiting scientists from IFREMER, France), and many others. These researchers worked tirelessly under his leadership to build much of the basic knowledge of shrimp disease and developed diagnostic tools to prevent the spread of infectious diseases in shrimp around the world. Some of the seminal contributions of Lightner and his team include the discovery of infectious hypodermal and haematopoietic necrosis virus, Taura syndrome virus, infectious myonecrosis virus, *Penaeus vannamei* nodavirus, and identifying the bacterial etiology of acute hepatopancreatic necrosis disease (earlier known as Early Mortality Syndrome, EMS). The Aquaculture Pathology Laboratory (APL) would go on to gain the status of the Reference Laboratory of Crustacean Diseases for the World Organization for Animal Health (OIE, Paris, France) and an USDA- APHIS approved laboratory for crustacean disease diagnosis. Lightner and his colleagues also realized the importance of incorporating molecular diagnosis of shrimp diseases and started providing proficiency test to diagnostic laboratories worldwide.

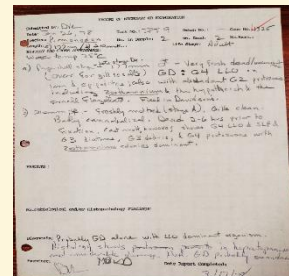


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Archival record of Dr. Donald V. Lightner's early years of work on shrimp diseases. The Aquaculture Pathology Lab has almost 50 years of records with tens of thousands of individual cases. These records are critical in understanding the origin, evolution and spread of infectious diseases in shrimp worldwide (The figure was prepared by Arun K. Dhar, @Aquaculture Pathology Laboratory, The University of Arizona, Tucson, AZ, USA)



In the early 1980's, the United States Marine Shrimp Farming Consortium was established by the US Congress. In the consortium's infancy, Lightner and his team led the animal health aspect of the captive breeding program. The consortium's effort ultimately led to the development of genetically superior Specific Pathogen Free shrimp and new biosecurity protocols to produce disease-free and disease-resistant animals.

In early 2000, Lightner and his team uncovered how frozen commodity shrimp could be an avenue of spreading very lethal infectious disease like white spot disease across continents leading to a more global approach to understanding the spread of shrimp disease. They also, developed new gene probes and Polymerase Chain Reaction (PCR)-based diagnosis for white spot disease before the viral genome was completely sequenced.

Lightner and his team realized the need of translational research in transforming shrimp aquaculture from a small-scale farming effort to a global industry. He mastered shrimp pathology first using a simple light microscope and he brought the field of shrimp pathology from darkness to One of Lightner's greatest legacies is the hands-on training and contributions to academia on shrimp disease diagnosis he provided to graduate students, researchers and aquatic animal health professionals from around the world. From 1989

when he started the training through 2015 when he retired, he trained almost 1400 specialists from 55 countries around the world. Lightner also authored over 400 scholarly articles and edited many books. Two of these he authored, "*Handbook of Pathology and Diagnostic Procedures for Diseases of Penaeid Shrimp*" and "*A Handbook of Normal Penaeid Histology*" are considered as the principal reference books on shrimp pathology in the modern day. For his many achievements and feats, Lightner received many awards and accolades throughout his career including the *Lifetime Achievement Award of the World Aquaculture Society* and the *OIE Gold Medal*, the highest award of the OIE for his lifetime contributions. In his passing, he left a wife, two daughters and a son. Though he has passed, Lightner will be missed dearly by his family, friends and colleagues from around the world not only as a superb academician and researcher, but also as a visionary and a pioneer.

Authors:

Arun K. Dhar, Aquaculture Pathology Laboratory, School of Animal and Comparative Biomedical Sciences, The University of Arizona, Tucson, Arizona, USA

And

Kevin M. Fitzsimmons, Department of Environmental Science, The University of Arizona, Tucson, Arizona, USA.



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Remembering Prof Kishio Hatai with utmost respect and fond memories:

14 August 1944 – 10 August 2021



Professor Kishio Hatai was one of the most famous Japanese national scientists, globally recognized for his expertise related to aquatic animal health and particularly fungal diseases of aquatic species. His academic career began with a Bachelor degree in aquaculture (University of Tokyo, 1968), a Master degree in fish pathology (Tokyo University of Fisheries, 1970) and a Ph.D. in fish fungal diseases (University of Tokyo, 1979). In 1971, he started his professional experience as a researcher at Sankyo (Japan), then at the Fisheries Institution of Nagasaki Prefecture until 1983. Important career milestones include Lecturer (1983-1985), Associate Professor (1985-1991), Professor (1991-2010) and Professor Emeritus in 2010 - all at the Nippon Veterinary and Life Science University (Tokyo, Japan). From 2013, he became Professor at the Borneo Marine Research Institute University, UMS, Sabah Malaysia. Throughout his scientific career, he received other prestigious awards including: The Scientific Achievement Award in Fish Pathology in 1986, and The Japanese Society of Fish Pathology Award in 1987; Honorary Doctorate of Veterinary Medicine at Khon Kaen University, Thailand in 2004; the JICA President Award (2007) that commend the individuals with preeminent achievements through Japan International Cooperation Agency (JICA) activities; and the Mycological Society of Japan Lifetime Membership Award (2009).

We reunited in 2013 when Hatai sensei informed of his wife's visit to Rome and which I had the pleasure of meeting again. In 2015, I took him to one of my projects in Africa dealing with EUS; it was an auspicious time to be able to bring the pioneering discoverer of EUS to Africa and to train African nationals everything about EUS. Our last conversation at FB was in early December 2020, when he informed me that he was sick, and between 23-26

December 2020 and first week of January 2021 – with the usual Xmas, NY and birthday greetings. Our next greeting would have been on 14 August for his 77th birthday, but sadly he passed away on 10 August. My bad, I should have checked on him much earlier. On 13 August, his daughter Machiko Yagashiro wrote to Hatai sensei's friends at FB to inform that he became sick in October 2020, hospitalized several times and was diagnosed with pancreatic cancer in April 2021 until his passing on 10 August.

A strong supporter of DAA, he attended at least eight if not all. In all cases, he never failed to bring his students to learn, make a presentation and to network. Most memorable were DAA V (November 2002, Australia) and DAA VI (November 2005, Sri Lanka), where he actively participated in the EUS workshop and a training course on fish disease diagnosis and health management, respectively – those times when back-to-back events were held with DAA. Prof Hatai was also one of two FHS/AFS awardees during DAA VI.

We will not be out of words to describe him. Apart from all above professional achievements and accolades, a very unassuming and kindly man, Hatai sensei is a perfect example of humility and excellence in his field. He will be remembered not only for his generous mentorship of so many people (students, fish farmers, young- to mid-level career entrants, other teachers, professionals) but more so for friendship and fatherly care (protector and provider).

Rest in peace Hatai sensei, my JSPS post-doc mentor on EUS, 25 years ago. Thank you for your passionate service and for unselfishly sharing your knowledge to combat EUS and fungal diseases of aquatic species in the classroom, in the lab and in the field.

Author: Melba B. Reantaso, Food and Agriculture Organization of the United Nations (FAO), Rome, Italy.

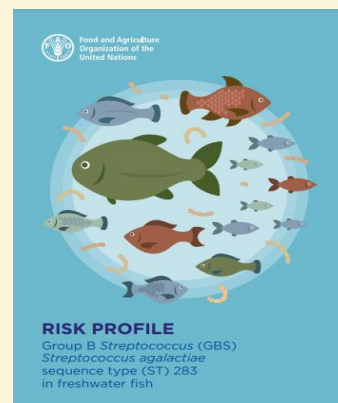


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Invasive Disease Linked to Raw Freshwater Fish

Streptococcus agalactiae, also referred as Group B *Streptococcus* (GBS), has been reported to cause foodborne outbreak of GBS disease. The strain responsible for causing the disease has been identified as sequence type 283 (ST283). Importantly, over 20 percent of cases have been observed in healthy adults without comorbidities and is accompanied by septic arthritis and meningitis. The epidemiological studies have revealed a strong link with the consumption of raw freshwater fish. The disease is common in Southeast Asian countries including Singapore, China, Hong Kong SAR, Lao People's Democratic Republic, Thailand, and Viet Nam. In contrast, very few cases have been reported beyond the Southeast Asian region, particularly in Africa, mainland China, Europe, and North and South America.



FAO has commissioned this risk profile to document the current state of knowledge on the presence and transmission of GBS ST283 along the freshwater fish supply chain (covering aquaculture and wild capture, transport, processing, retail, preparation, and consumption) and to identify relevant data gaps. The risk management options include application of good aquaculture practices and good food safety measures throughout the supply chain. The risk profile is available on the FAO website <https://www.fao.org/3/cb5067en/cb5067en.pdf>.

3rd International Conference on Aquatic Animal Epidemiology

The Third International Conference in Aquatic Animal Epidemiology is being organised by ICAR-National Bureau of Fish Genetic Resources, Lucknow in collaboration with The International Society of Aquatic Animal Epidemiology (ISAAE) and National Fisheries Development Board, Hyderabad, Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying, Government of India at New Delhi in November 2022. The conference would provide a platform to researchers working in the area of aquatic animal epidemiology for scholarly interactions, knowledge dissemination, developing network as well as contacts. All the researchers working in the area of aquatic animal health should plan well in advance for attending the Conference at New Delhi, India.

FHS/AFS EXECUTIVE COMMITTEE (2017-2020)

FHS Advisors: Rohana Subasinghe, Melba B. Reantaso, Supranee Chinabut

Chairperson: Agus Sunarto (Indonesia/Australia)

Vice-Chairperson: Kua Beng Chu (Malaysia)

Secretary/Treasurer: Eduardo Leaña (Thailand/ Philippines)

Members: Phan Thi Van (Vietnam), Motohiko Sano (Japan), P.K. Pradhan (India), Han-Ching Wang (Taiwan), Liang Yan (P.R. China), Siow-Foong Chang (Singapore), Varinee Panyawachira (Thailand), Gerald Misol, Jr. (Malaysia)

Observers: Dang Thi Lua (Vietnam), Benjaporn Somridhivej (Thailand), Imelda Rantty (Malaysia), Dewi Syahidah (Indonesia), Partho Pratim Debnath (Bangladesh)

FHS Electronic Newsletter Editors: P.K. Pradhan, Neeraj Sood, Dewi Syahidah

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 2023. All the members are requested to share important news or other information that would be useful for the members of FHS.

eNewsletter Editorial Team