



## Message from the Chair

Dear FHS Colleagues,

Greetings and New Year Wishes!

On new year we take time to reflect on the highlights of the year that has passed. I'm particularly pleased to inform you that Dr Kua Beng Chu (Vice Chairperson of FHS-AFS and DAA11 National Organizing Committee) and her team is firing up with the preparations for DAA11 to be held in Kuching, Malaysia in 2020. They have successfully secured USD25,000 from Sarawak Convention Bureau for hosting DAA11 and currently waiting for other approval of applications from the federal state. We have also identified some companies as potential sponsors for the event, but we need more. Please let us know if there are any companies or organisations within your network that are interested either as a sponsor or a participant for trade show during the Symposium. We also welcome any ideas on how to make DAA better. These include, but not limited to conference format, special sessions, keynote speakers, etc.

What started in Bali, Indonesia in 1990 as a humble gathering, DAA has evolved as the biggest aquatic animal event in Asia. To celebrate 30 years of the symposium, DAA11 is coming to Malaysia where the FHS-AFS was founded in 1989. We hope this milestone will not only attract active members of the Society and other fish health workers from around the globe, but also the founding fathers of FHS-AFS for a well-deserved reunion. You'll find the profiles of some senior members in this eNewsletter.

In this Edition, you'll also find "News" that capture the pulse of the region in term of aquatic animal health issues. These include antimicrobial use (AMU) and antimicrobial resistance (AMR) in aquaculture, the new emerging diseases (tilapia lake virus, TiLV, and shrimp hematocyte iridescent virus, SHIV) and emergency aquatic animal disease preparedness and response. NACA is currently collecting expert information database and we encourage FHS members to be actively involved in this initiative by submitting their profiles to NACA. If you're looking for a reason to travel in 2019, you would better check our session of "Upcoming Events".

In the next Edition, we would like to add a new session called "Opportunities", where we could share and look for opportunities around aquatic animal health. Members are most welcome to send information including, but not limited to, research opportunities, potential collaborations, funding schemes, scholarships, post docs and job vacancies. If there are sufficient interests, we could also set up a new page in our website to further explore these opportunities.

On behalf of the ExCo and members, we thank our fabulous eNewsletter Editorial Team for publishing this Edition in time.

I hope you have had a great holiday season and fully recharged for 2019!

Best wishes,

Dr. Agus Sunarto Chairperson FHS-AFS (2017-2020) Email: Agus.Sunarto@csiro.au



## **Recognition Awards to Senior-most Members of FHS**

The Fish Health Section (FHS), Asian Fisheries Society (AFS) felicitated a number of senior members of the FHS/AFS during the DAA 10 held last August 28-September 1, 2017 in Bali, Indonesia, for their dedicated support to the activities of FHS/AFS over a long period of time and contribution to fish health research in the region. They have been exemplary mentors to many and their great contributions are much appreciated. Their profiles are published in this and future issues of the FHS/AFS electronic newsletter;

Alexandra Sandra Adams (Scotland), Celia R. Lavilla-Pitogo (Philippines), Chadag Vishnumurthy Mohan (India/Malaysia), Ikuo Hirono (Japan), Indrani Karunasagar (India), James Richard Arthur (Canada), Leong Tak Seng (Malaysia), Melba Reantaso (Philippines/Italy), Mohd. Shariff (Malaysia), Rohana Subasinghe (Sri Lanka), Supranee Chinabut (Thailand), Timothy W. Flegel (Thailand).

The profiles of following esteemed members will be included in the next edition;

Chu-Fang Lo (Taiwan), Donald V. Lightner (USA), Kamonporn Tonguthai (Thailand), Kishio Hatai (Japan), Takashi Aoki (Japan)

### PROFILE



Prof. Alexandra Sandra Adams (United Kingdom) Institute of Aquaculture, Pathfoot Building, University of Stirling, Stirling, FK9 4LA, United Kingdom Email: alexandra.adams@stir.ac.uk

Alexandra (Sandra) Adams is Head of the Fish Health Group and team leader for the Immunology and Vaccinology Group at the Institute of Aquaculture, University of Stirling. She graduated from the University of Glasgow (BSc) and University College London (PhD) in Biochemistry and then moved to University of Stirling as the aquaculture industry was just beginning to expand in the UK. She has worked on the development of fish vaccines and rapid diagnostic tests since 1985 and is also the co-founder of Aquatic Diagnostics Ltd (www.aquaticdiagnostics.com), a spin-out company, marketing monoclonal antibodies for the identification of fish pathogens and detection of components of the fish immune system.

Professor Adams has published over 180 papers and her main current research interests include fish vaccine development, host-pathogen interactions, development of multiplex tests for the detection of fish pathogens and components of the fish immune system, and elucidating the effects of feed components and novel feed additives on the immune system and disease susceptibility.



**Dr. Celia R. Lavilla-Pitogo (Philippines)** Consultant on Fish and Shrimp Health Tigbauan 5021, Iloilo, Philippines Email: celia.pitogo@fulbrightmail.org

Dr. Celia R. Lavilla-Pitogo is a Filipino scientist with extensive work on diseases affecting farmed shrimps and fishes during her 30-yearstint at SEAFDEC Aquaculture Department, Philippines. Her research and extension work resulted in more than 60 scientific papers, reviews, manuals and book chapters in collaboration with Filipino and international scientists. She has extensive work on fish diagnostics and was involved in faceto-face and online training courses on health management in aquaculture. Her membership in the Advisory Group on Aquatic Animal Health of the Network of Aquaculture Centres in Asia-Pacific exposed her to aquatic animal health strategies for its 21 Asian member countries. Celia was a member of the ad hoc Committee on Antimicrobial Resistance in Aquatic Animals of the World Organization for Animal Health (OIE) that wrote 5 chapters in Section 6 of the OIE Aquatic Code, Recommendations for Antimicrobial Use in Aquatic Animals. Under the 2008 Fulbright Scholarship Program, she conducted shrimp disease research at the University of Arizona, USA with Dr. Donald Lightner. In July 2010, she joined Integrated Aquaculture International LLC (IAI), as Director of Aquatic Animal Health at its Brunei Darussalam operation where she managed biosecurity and health of SPF Penaeus monodon and P. stylirostris. Under IAI's iAqua Malaysia, Celiaalso managed shrimp health and biosecurity in farms and hatcheries of Blue Archipelago Berhad. At present, Celia is an inconsultant on shrimp and fish health based in the Philippinesdependent doing collaborative work with international agencies and private aquaculture corporations.



She received her PhD in Fish Pathology from Hiroshima University, Japan, MS Marine Biology from the University of the Philippines, and BS Biology from the Mindanao State University, Marawi City, Philippines.



Prof. C. V. Mohan (India) Principal Scientist, WorldFish Jalan Batu Maung, Batu Maung, Bayan Lepas, Penang, Malaysia Email: V.Chadag@cgiar.org

Prof. Chadag Vishnumurthy Mohan is a Senior Scientist at WorldFish. Within WorldFish, Prof. Mohan leads the aquatic animal health research cluster under the Sustainable Aquaculture Flagship of CGIAR Research Program on Fish Agri-Food systems and is also the Research Lead for India, a scaling country for WorldFish. He holds PhD in Aquatic Animal Pathology from the University of Stirling. His expertise includes small-scale aquaculture, development and implementation of better management practices through cluster management approach, group certification, fish and shrimp pathology, epidemiology, development and implementation of national aquatic animal health strategies, surveillance and reporting, and biosecurity. He comes from a strong academic background of 21 years at the College of Fisheries, University of Agricultural Sciences, Mangalore, India. Before joining WorldFish in April 2014, he worked for Intergovernmental NACA based in Bangkok for 11 years supporting sustainable aquaculture and aquatic animal health R&D programs in 18 Asia Pacific governments. He served as the Chairperson of Fish Health Section (FHS) of Asian Fisheries Society for the period 2011-2014. He has published over 100 research papers in the areas of aquatic animal health and aquaculture.



Dr. Ikuo Hirono (Japan)

Professor, Laboratory of Genome Science, Tokyo University of Marine Science and Technology, Tokyo, Japan E-mail: hirono@kaiyodai.ac.jp

Prof. Ikuo Hirono obtained his PhD from Kagoshima University in 1993, did a postdoctoral fellowship (JSPS) at Tokyo University of Fisheries in 1993-1994 and was a research scholar at Hopkins Marine Station, Stanford University in 1998. He was Assistant Professor, Tokyo University of Fisheries from 1994-2002, and Associate Professor, Tokyo University of Fisheries, Tokyo University of Marine Science and Technology from 2002-2009. He is a Professor, Tokyo University of Marine Science and Technology from 2009. He attended the first DAA1 in Bali, Indonesia when he was a graduate school student. He was the Executive committee member of Fish Health Section of Asian Fisheries Society from 2011 to 2014. He is a co-editor in chief of Fish and Shellfish Immunology and editorial board members of several international journals. He has over 390 publications in several international journals. His main research areas are shrimp immune system and development of fish DNA vaccines. He has/had many of students from Thailand, Philippines, Vietnam, Indonesia, Singapore, India, South Korea, China, and Columbia. He has/had many of international research collaborations under governments.



**Prof. Indrani Karunasagar (India)** Dean, Faculty of Biological Sciences Director, Nitte University Center for Science Education and Research

University Enclave, Medical Sciences Complex, Deralakatte, Mangalore-575018, India

#### Email: karuna8sagar@yahoo.com

Prof. Indrani Karunasagar, an internationally renowned scientist, is the Director-Research & Development of Nitte (Deemed to be University), Dean of Biological Sciences and heads the Centre for Science Education and Research. She is actively promoting 'One health' research and education for over four decades. She is also the Director of UNESCO Centre for Medical & Marine Biotechnology and Member of the National Scientific Advisory Council, Government of India. She is the only Indian Member of the International Jury for UNESCO Life Science Prize for research and social relevance. Formerly, she was the Associate Director of Research, KVAFSU, Mangalore and Professor & Head, Department of Fisheries Microbiology, College of Fisheries, Mangalore of Karnataka Veterinary, Animal and Fisheries Sciences University. She was a post doctoral fellow at the Institute of Aquaculture, University of Stirling, UK and was awarded UNESCO Biotechnology Fellowship in 1995 at College Park, UMD, USA and the Senior Overseas Associateship of DBT in 1998 for Postdoctoral Research at the Centre for Marine Biotechnology, University of Maryland, USA. She was a visiting professor to the University of Wurzburg, Germany & University of Ghent, Belgium through collaborative projects. She has excelled in areas of marine biotechnology, molecular biology, and food safety. She is a member of several national and international committees, Principal Investigator of national as well as international collaborative projects (Indo-German, Indo-Australia, Indo-Belgium, Indo-Norway, Indo-UK, Indo-Sri Lanka) member of Academic and Research Advisory councils and is also on the Editorial Board of national and international journals.

She is a recipient of many awards and recognitions in India and abroad, notable among them being, National Technology Development Award, Govt. of India; Fellow, National Academy of Agricultural Sciences; Sir. M. Visvesvaraya Award for excellence in research and lifetime contribution to Science

and Technology, Govt. of Karnataka; Rafi Ahmed Kidwai Award, ICAR, Govt. of India; Lifetime Achievement Award, Department of Biotechnology; Punjab Rao Deshmukh Outstanding Woman Scientist Award, ICAR, Govt. of India, M.S. Swaminathan Award, National Bioscientist award, DBT,Govt. of India; Asia Pacific Award for eminence in Aquatic Virology and T.V.R. Pillai award for research excellence. Prof. Indrani Karunasagar has over 300 publications in high impact factor national and international journals, chapters in several books, edited three books, has trained over 60 postgraduate and doctoral students, who are now occupying prestigious faculty and industry positions in India and abroad. With 6829 citations, h-index of 44 and i10 index- 135, she has carved a niche for herself.



Dr. J. Richard Arthur Professional Consultant Box 1216, Barriere, B.C. Canada VOE 1E0 E-mail: richardarthur@xplornet.ca

Expert in international aquatic animal health issues based in British Columbia, Canada specializing in policy development and risk analysis. Organizer of AFS Fish Health Section. Career includes periods in Asia with the International Development Research Centre (IDRC) as Fish Health Network Coordinator and as Fisheries Program Officer (Asia and Pacific), and in Canada, as a research scientist and manager in aquatic parasitology with the Institut Maurice LaMontagne, Canadian Department of Fisheries and Oceans (DFO). Private consultant since 1997, with experience in more than 50 countries, primarily in Asia, but also with projects in Africa, Latin America, Eastern Europe, the Middle East and the South Pacific. Recent work includes involvement with risk analysis in Oman, FAO Expert Group on Antimicrobial Residues in Aquaculture, and FAO/WB/MSU Consultation on Progressive Management Pathway towards Improving Aquaculture Frequent editor of scientific and technical Biosecurity. publications in aquatic animal health, aquaculture and fisheries for FAO. Recent publications include Checklist of fish parasites of Malaysia, and Checklist of fish parasites of Singapore (University Pertanian Malaysia Press) and co-editing of Asian Fisheries Science special volume on AHPND



**Dr. Leong Tak Seng (Malaysia)** Professor of Parasitology (Retired), School of Biological Sciences, Universiti Sains Malaysia Email: leongtakseng@gmail.com

Dr Leong was educated at St. Thomas School, Kuching, Sarawak

and obtained his PhD in 1975 from The University of Alberta, Edmonton, Canada. He retired as Professor of Parasitology, School of Biological Sciences, Universiti Sains Malaysia. While at the university, he undertook extensive research on marine fish parasites, diseases and their health management in floating cages. His long-term fish diseases research projects were funded from Malaysian Government IRPA program (1985-1999) and from International Development Research Centre (IDRC), Canada (1985-1992). He was the founder Chairman of the Fish Health Section, Asian Fisheries Society. He was a registered Environmental Impact Assessment Consultant and undertook numerous impact assessments, using macrobenthic community as indicator of impacts, from offshore oil and gas field exploration and production development in Malaysia and Brunei. Current fish disease research is to determine the primary pathogens causing disease outbreak in cultured marine fish.



Dr Melba B. Reantaso Fisheries and Aquaculture Department Food and Agriculture Organization of the United Nations Rome, Italy Email: Melba.Reantaso@fao.org

Dr. Melba Reantaso has three decades of combined experience on aquaculture (small-scale aquaculture), biosecurity governance and aquatic animal health (AAH). She joined FAO in 2004 and is responsible for various capacity building aspects of aquaculture biosecurity and AAH (including antimicrobial resistance) e.g. disease outbreak investigations, risk analysis, surveillance for non-specialists, emergency preparedness and development of national and regional strategies on AAH management. She mobilises resources from FAO and donors to support development projects, expert meetings, training courses and maintains a network of AAH specialists. She is regularly sought as a referee for scientific journals, keynote conference speaker, conference session convener and facilitator to expert meetings. She represents FAO to the NACA Advisory Group on AAH and Working Group 4 of the UN AMR Interagency Coordination Group (IACG). She currently serves as member of the Advisory Board of GlobalSeaweedSTAR (GSSTAR), (www.globalseaweed.org) and the External Advisory Board (EAB) of the USAID-funded and Mississippi State University-managed Feed the Future Innovation Lab for Fish https://www.msstate.edu/newsroom/article/2018/09/msulead-new-usaid-feed-future-innovation-lab-fish/). She currently leads the development of Progressive Management Pathway for Improving Aquaculture Biosecurity (PMP/AB) (http://www.fao.org/fishery/nems/41063/en) - a new paradigm for dealing with aquatic disease challenges patterned after the Progressive Control Pathway for livestock

diseases following the principles of being risk-based, collaborative and progressive. Melba has travelled to at least 67 countries in pursuit of education and professional goals. Prior to joining FAO, she was a Molluscan Pathologist (Oxford Laboratory, Maryland, USA); Regional Aquatic Animal Health Specialist (NACA, Bangkok) and retired early as Senior Aquaculturist from the BFAR of the Philippines. A published professional, she served as Chief Editor of the FAO Aquaculture Newsletter for 10 years, past editor FHS/AFS electronic newsletter and 3-time editor of DAA V, DAA VI and DAA VII proceedings.. She was Secretary (1999-2002) and Chairperson (2002-2005) of the FHS/AFS ExeCom. Melba obtained BSc Zoology (UPLB, Philippines), M.Sc. Biology (major in fish parasitology, DLSU, Philippines), Ph.D. Fisheries Science (major in fish pathology, University of Tokyo, Japanese Monbusho scholar) and a post-doctoral fellowship (Nippon Veterinary and Life Science University, as JSPS fellow). Her mentors include Dr J.R. Arthur (Canada), Professors K. Ogawa, T. Yoshinaga and K. Hatai (Japan), Dr S. McGladdery (Canada), Dr R. Subasinghe (FAO) and Dr M. Phillips (NACA).



Prof. Dato Dr Mohamed Shariff Mohamed Din (Malaysia) Faculty of Veterinary Medicine Universiti Putra Malaysia Email: pshariff@gmail.com

Shariff obtained his PhD from University of Stirling, Scotland. He has 42 years' experience in fish health research and has served as a consultant/advisor to international agencies such as FAO, IDRC, NACA, ACIAR, WIPO and IFS. He published over 170 scientific papers.

Shariff is the founder President of the Malaysia Fisheries Society and served as the President of the Asian Fisheries Society. He has served on the Board of Trustees of the World Fish Centre and on the OIE Aquatic Animal Health Standards Commission. Shariff was the coordinator of the Aquatic Fish Health Network for IDRC, Canada. Shariff is an inventor who has filed 10 patents and his invention "The Fast Target" a rapid PCR nested diagnostic kit for detection of white spot shrimp virus won him several medals including the WIPO gold medal in 2000. With his strong background in Intellectual Property (IP) and technology transfer, Shariff has actively participated as a resource person or a consultant in several programs organized by WIPO in various countries in Africa, Latin America, Middle East and Asia.

At the national level, he has created awareness among the universities and research institutions on the importance of IP and commercialization for nation building. He sits on various IP committees and also serves as a jury panel for national awards on IP and Commercialization and national Academic Awards.

Shariff is a Fellow of Academy of Sciences Malaysia (ASM) and listed as the Top Research Scientists by ASM. He is the Editor in Chief of the Asian Fisheries Science.



**Dr. Rohana Subasinghe (Sri Lanka)** Managing Director, FUTUREFISH 110, Parliament Road Rajagiriya, Sri Lanka Email: rohana@futurefish.org

Dr. Rohana Subasinghe, a founder member and former Chairperson of the Fish Health Section of the Asian Fisheries Society, is a specialist in aquaculture development and aquatic animal health management. He retired from FAO in October 2015, while serving as the Chief of the Aquaculture Brach. He joined FAO in 1994 and took responsibility in implementing many projects on aquaculture and aquatic animal health at national, regional and international levels worldwide until his retirement. Among others, at FAO, he was also responsible for analyses of trends in aquaculture development globally. For fifteen years, he served as the Technical Secretary to the Sub-Committee on Aquaculture of the Committee on Fisheries of the FAO, the only global inter-governmental forum on aquaculture which meets every two years. A former teacher of the University of Colombo and the Universiti Putra Malaysia, Rohana earned his PhD from Stirling University. Rohana is a strong advocate of sustainable, responsible and equitable aquaculture and harnessing its significant contribution to poverty alleviation and food and nutrition security. His passion is to increase fish consumption among rural poor, especially childbearing women and young children, towards improving their health. Rohana is still active in the field of fisheries and aquaculture, currently extending his years of experience and expertise, as a consultant, to many agencies and institutions worldwide.



Dr. Supranee Chinabut (Thailand) Senior Advisor on Fish Diseases Department of Fisheries Bangkok 10900. Bangkok, Thailand Email: supraneecb@yahoo.com

Dr Supranee Chinabut received the first degree on Fisheries Science from Fisheries Faculty, Kasetsart University, Thailand, after that got a Master degree on Fisheries Management from Auburn University, USA and PhD from Stirling University, Scotland Work at the Royal Thai Department of Fisheries since graduated from Kasetsart University until retired. Personal interest are fish parasitology and histopathology. Was the Chairperson of Fish Health Section/Asian Fisheries Society from 2001-2003. Attended almost all DAA except the one organized in India. Over 40 years of experience in research, diagnosis, teaching both national and international in aquatic animal health.



At present, he is the member of the Advisory Group for NACA and a committee of Agricultural Research Development Agency, ARDA (Public Organization).



**Prof. Tim Flegel (Thailand)** Chalermprakiat Building, Fac. Science, Mahidol University, Rama 6 Road, Bangkok 10400, Thailand Email: tim.flegel@gmail.com

Tim Flegel is currently located at the Center of Excellence for Shrimp Molecular Biology and Biotechnology (Centex Shrimp) that is co-operated by the Faculty of Science Mahidol University and the Thai National Center for Genetic Engineering and Biotechnology (BIOTEC) under the National Science and Technology Development Agency (NSTDA). He was the head of Centex Shrimp from 2001-2012. He has done research on shrimp pathology and shrimp defense mechanisms, particularly for viral pathogens, for the past 30 years. For most of that period, he has been a member of both the Fish Health Section (FHS) of the Asian Fisheries Society and the World Aquaculture Society and has been active in regional and international activities related to shrimp health management. He has received several national awards for his research on shrimp, the most recent being an honorary PhD in Biotechnology from Mahidol University (Sept. 2018), a Recognition Award, from FHS of AFS (Aug. 2017) at the 10th Symposium on Diseases in Asian Aquaculture, Bali, Indonesia and the National Research Council of Thailand award as Researcher in Agricultural Science Outstanding and Biology(2013). He became a Thai citizen in 2010. He retired as a Professor in the Department of Biotechnology in 2010 and as head of Centex Shrimp in 2012 and now serves as an advisor to BIOTEC/NSTDA. At Centex Shrimp, he continues to do research on shrimp pathology and on the shrimp response to viral pathogens.

#### **NEWS**

#### NACA Experts Database: Submit Your Profile



NACA is currently collecting expert information that we can use to prepare a public profile. The profile will be included in the Experts Database on the website of the Network of Aquaculture Centres in Asia-Pacific (NACA). Interested experts can scan the QR Code below which will bring them directly to the online form.

Please fill in the form as completely as possible. We would appreciate it if you could follow the guidelines carefully, spell check your entries and invest some time in making your profile as good as you can. Use standard letter case (not all capitals). Your response will be edited and sent back to you for confirmation before publication. Twice a year you will be invited to review and update your profile.

If you would prefer to submit this form as a Microsoft Word document, please download a blank form from: <u>https://enaca.org/uploads/forms/contact-database.docx</u>

If you have any questions or want to submit the Word version of the form, please email <a href="mailto:rrsimon@enaca.org">rrsimon@enaca.org</a>.



17th Meeting of the Asia Regional Advisory Group on Aquatic Animal Health



The 17<sup>th</sup> Meeting of the Asia Regional Advisory Group on Aquatic Animal Health (AGM 17) was held in Bangkok, Thailand during13-14 November 2018, back-to-back with the OIE Regional Expert Consultation on Aquatic Animal Disease Diagnosis (held on 15-16 November 2018). The AGM 17 was organised by Network of Aquaculture Centres of Asia-Pacific (NACA) and attended by invited experts from the region, representatives of NACA partner organizations including World Organization for Animal Health (OIE), Food and Agriculture Organization of the United Nations (FAO), and SEAFDEC, and the private sectors. Updates on aquatic animal health management in the region were discussed during the 2-day meeting. These included progress reports from NACA, OIE, FAO and SEAFDEC on their activities in the Asia-Pacific region and aquatic animal health programs and activities of Australia, China and Thailand. Updates on important diseases of finfishes, crustaceans, molluscs and amphibians were also presented and discussed.

Among the current and important issues on aquatic animal health, the new emerging diseases like Tilapia lake virus disease and Shrimp hematocyte iridescent virus disease were highlighted. Other issues including antimicrobial use and antimicrobial resistance in aquaculture, and updating of diseases in QAAD for 2019 disease reporting were discussed and endorsed by the group. The Final Report of the meeting is under preparation and will be published at NACA website within the first quarter of 2019.

#### ASEAN Consultation on Emergency Aquatic Animal Disease Preparedness and Response

Aquaculture production in Southeast Asia has grown rapidly over the past two decades, but the industry has been severely impacted on many occasions by infectious diseases. The recent outbreak of acute hepatopancreatic necrosis disease (AHPND) in shrimp, for example, caused severe economic losses in Vietnam, Thailand, Malaysia and the Philippines.

A key factor in the spread of infectious diseases has been the irresponsible and unchecked movement of live aquatic animals both within and between countries, with inadequate attention to biosecurity. A lack of capacity responding to disease emergencies has also been a factor, complicated by the fact that emerging pathogens of aquatic animals are often previously unknown to science, and may spread widely before they are recognised. As a result of the AHPND outbreak, ASEAN member states identified the development of emergency preparedness and response systems and contingency planning for managing aquatic animal disease outbreaks as a priority action.

The ASEAN Regional Consultation on Aquatic Emergency Preparedness and Response Systems for Effective Management of Transboundary Disease Outbreaks in Southeast Asia was held in Bangkok, 20-22 August 2018. The consultation was funded by Japan-ASEAN Integration Fund (JAIF) and organised by the Department of Fisheries, Thailand, SEAFDEC Aquaculture Department, Philippines, Network of Aquaculture Centres in Asia-Pacific, and ASEAN Network of Aquatic Animal Health Centres.

The objective of the consultation was to bring together ASEAN member states and technical experts to discuss the current status of emergency animal disease preparedness and response systems, and to identify gaps and opportunities for regional cooperation in management of transboundary disease. The consultation was tasked with:

- Assessing the existing regulatory framework, operating procedures and national aquatic animal health management strategies of ASEAN member states.
- Assessing the need for a regional ASEAN emergency preparedness and response system.
- Identifying gaps and priority areas for R&D collaboration.
- Enhancing cooperation amongst member states, international organizations and other stakeholders in management of emergency aquatic animal disease outbreaks.

The consultation was opened with remarks from Dr. Chumnarn Pongsri, Deputy Director General of the Thai

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Department of Fisheries, Dr. Kom Silpajarn, Secretary-General of SEAFDEC, Dr. Koh-ichiro Mori, Deputy Chief of Aquatic Animal Health Research and Development Division, Thai Department of Fisheries.

The consultation provided an overview of the current status of emergency disease preparedness and response systems and regulatory arrangements in the region, with presentations made by Brunei Darussalam, Cambodia, Indonesia, Japan, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam. Technical presentations included:

A demonstration of DisasterAWARE, a web-based software system used by many agencies around the world to visualise data and manage response to different types of disaster and natural hazards, by Dr. Chris Chiesa, Deputy Executive Director of the Pacific Disaster Center.

A historical overview of transboundary disease incidents and impact, by Dr. Eduardo Leano, NACA's Aquatic Animal Health Programme Coordinator.

The trade implications of disease outbreaks, by Dr. Jing Wang of the World Organization for Animal Health (OIE).

The response to the recent examples of tilapia lake virus (TiLV) was described by Dr. Seangchan Senapin, Deputy Director of Centex Shrimp and Head of the Shrimp Molecular Biology and Biotechnology Laboratory, National Science and Technology Development Agency, Thailand.

Another recent transboundary disease emergency, AHPND in shrimp, was described by Dr. Kallaya Sritunyalucksana, National Center of Genetic Engineering and Biotechnology (BIOTEC), Thailand.

Presentations on import risk analysis and assessment and emergency preparedness and response systems as an element of an aquatic animal health management and biosecurity strategy, by Dr. Melba Reantaso, FAO.

The consultation broke into a workshop session with participants tasked to identify gaps, make policy recommendations and highlight priority areas for collaborative research and development on regional emergency disease preparedness and response.

The consultation wrapped up with a field trip to the Nam Sai Farms tilapia hatchery, and to the Royal Sea Farming and Aquaculture Demonstration Project in Petchaburi Province. The proceedings of the meeting will be published by SEAFDEC AQD and audio recordings of the technical presentations will be made available on the NACA website in due course. Source: <u>https://enaca.org/?id=1009&title=asean-</u>

consultation-on-emergency-aquatic-animal-diseasepreparedness-and-response

#### **Consultations address Antimicrobial Resistance Risk in Aquaculture**

Two consultations on antimicrobial resistance (AMR) risks in aquaculture were jointly organised in Bangkok from 4-7 September by FAO and NACA with much appreciated financial support from FAO and USAID. The consultations were attended by seventeen governments in the Asia-Pacific region, the World Organization for Animal Health (OIE), WorldFish and Chulalongkorn University. Although control over the use of antimicrobial substances has been strengthened over the past twenty years, mainly from the perspective of international trade and food safety, they are still commonly used in livestock industries and controls over the use of antimicrobial substances in aquaculture is still far from adequate or effective. Improper and imprudent use of these substances can significantly contribute to the development of resistance in microorganisms, due to the nature of the aquatic environment and the ways in which cultured animals are handled.

AMR is a growing issue with significant implications for both human and animal health. However, data on pathogen resistance in aquaculture and other livestock industries has not been routinely or systematically collected. The purpose of the regional consultations was to initiate action on this issue, identifying interventions to assess antimicrobial usage in Asian





aquaculture and a strategy to minimise the long term AMR risks.

In this context FAO, NACA and USAID are working together to undertake a regional assessment on antimicrobial use (AMU) and the associated risks of AMR in aquaculture. This study will assess the current status of AMU in selected countries as well as their regulation and governance, and identify major issues, gaps and constraints in minimising AMR risks.

The purpose of the regional consultations was to identify actions and develop a strategy to address AMR risks associated with aquaculture, based on an assessment of the status of AMU and AMR. This initiative is part of a broader, coordinated "One Health" movement across the entire human health and agricultural sectors to address prudent usage of antimicrobial substances to reduce AMR risks.

The meeting was opened with welcome remarks from Ms. Xiangjun Yao, Regional Programme Leader for FAO-RAP; Dr. Daniel Schar, Senior Regional Emerging Infectious Diseases Advisor for USAID; Dr. Chumnarn Pongsri, Deputy Director General of the Thai Department of Fisheries; and Dr. Cherdsak Virapat, Director General of NACA.

The first consultation addressed the status of AMU and AMR in the region, current national initiatives and regulatory instruments, and the development of a regional framework for AMR surveillance. Issues discussed included:

- The status of antimicrobial usage and antimicrobial resistance in the region.
- Antimicrobial resistance surveillance initiatives in Asian aquaculture.
- Development of a framework for antimicrobial resistance surveillance in Asia.
- A regional overview of current laws and regulations relevant to antimicrobial usage and resistance.

• Antimicrobial resistance in important bacterial diseases of aquaculture.

The discussions paved the way for the second consultation, which concerned the development of a regional guideline on AMR surveillance in aquaculture. Issues addressed included: developing the framework for antimicrobial resistance monitoring and surveillance in Asia, including harmonisation of national antimicrobial resistance surveillance and monitoring programs for aquatic animals under the OIE Aquatic Animal Health Code; risk analysis of foodborne antimicrobial resistance and the Codex Alimentarius; methods and performance standards on AST from aquatic bacterial isolates and the Assessment Tool for Laboratory and AMR Surveillance Systems (ATLASS); establishing the principles, purpose and objectives of the AMR surveillance guidelines for aquaculture including design, priorities and sampling strategies, methods for bacterial isolation, development of antibiotic panels and isolate storage; guidelines on data management, including tools, storage and sharing of AMR surveillance data and implementation plans.

The endpoint envisaged for this initiative is the development of a guideline and framework for AMR monitoring and surveillance in Asia that will include regional guidelines on sampling approaches, laboratory testing and data management. These are anticipated to contribute towards the development of evidence-based treatments guidelines for common pathogens in aquatic animals and to reinforce good veterinary practices in lieu of unwarranted metaphylaxis and broad-spectrum preventative treatments. Source: https://enaca.org/?id=1008&title=consultations-

address-antimicrobial-risk-in-aquaculture





## Intensive 7-day course on Tilapia Lake Virus successfully completed



A collaborative capacity building initiative between China's National Fisheries Extension Center (NFTEC) and Sun Yat-Sen University (SYSU) and FAO, was successfully concluded on 24 June 2018. The course was opened by Dr Jianguo He (SYSU) and closed by Dr Feng Zang and Ms Qing Li (NFTEC).

Some 29 participants representing competent authorities, academe and service providers from Brasil, China, Indonesia, Malaysia, Mozambique, Myanmar, Peru, the Philippines, Sri Lanka and Viet Nam completed the intensive 7-day course on Tilapia lake virus (TiLV). Under the technical oversight of FAO (Dr Melba Reantaso), the course was delivered by Chinese (Dr Yang Hong, Prof Anxing Li, Dr Hong Liu and Prof JunHong Xia) and FAO experts (Dr Kathy F.J. Tang/USA, Dr Win Surachetpong/ Thailand, Dr Ha Thanh Dong/Viet Nam, Dr Mona D. Jansen/Norway).

The course consisted of seven sessions that included 22 expert presentations, field visit, laboratory activities and several interactive working group exercises. The participants acquired the currently available technical information on the biology, pathology, diagnostics, surveillance and economics, farm level management of TiLV and emergency preparedness. These learnings reinforced their capacity in preparing a preliminary action plan on TiLV.

Tilapias, are the second-most important farmed finfish worldwide (next to the cyprinids), with Nile Tilapia (*Oreochromisniloticus*), ranking 6th among the most important cultured species. Their importance is also due to their affordability, widespread source of low cost but high quality protein and micronutrients. TiLV represents a serious threat to food security especially in developing world where tilapia is farmed.

TiLV, an enveloped, negative-sense, single stranded RNA virus, appears to have a narrow host specificity [e.g. farmed tilapia such as hybrid tilapia (*Oreochromisniloticus x O. aureus* hybrid), Nile tilapia, and red tilapia (*Oreochromissp.*)] and reported as well from several wild tilapines.

Histopathology, RT-PCR and RT-qPCR, and *in-situ* hybridization are currently the methods that can be used to identify TiLV. The most common histopathological lesion found in TiLV outbreaks is syncytial hepatitis.



Although the precise mechanism for transmission is unknown, nor is there information available on virus stability free in the water or in contaminated fomites, horizontal disease transmission is likely to be the main mode of disease spread.

TiLV spread is likely a direct one through local and transboundary movement of live fish. There are at least 14 tilapia producing countries whereTiLV has been reported (e.g. through local and international scientific literature, OIE notifications). As live tilapia is a widely traded commodity, there is potential that TiLV may have spread significantly over the years since its first reported occurrence in 2009. There is still lacking information on the role played by the trade in uncooked tilapia products, both in terms of the virus' survival in frozen/chilled tissue or in terms of pathways by which these products could result in infection of farmed or wild fish stocks.

It is paramount for tilapia producing countries to assess risks, undertake surveillance to determine national TiLV health status, investigate unexplained tilapia mortalities and introduce risk management measures where deemed necessary. The status of TiLV in a country can be politically sensitive due to the range of potential implications. It is thus essential that competent authorities are immediately informed of any observation (field or research) before such findings are made publicly available.

Further information about the course (<u>http://www.fao.org/fishery/nems/41072/zh</u>) and other related activities on TiLV of FAO can be obtained by writing to <u>Melba.Reantaso@fao.org</u>



## 11th Symposium on Diseases in Asian Aquaculture (DAA 11)

We are proud to be the host of 11<sup>th</sup> Symposium on Diseases in Asian Aquaculture (DAA11) in 2020 which will be held in Kuching, Sarawak, Malaysia. DAA11 is another platform for sharing knowledge and experience in improving, promoting and expanding aquatic animal health. We like to welcome businesses, academia, researchers and students from across the globe to discuss and share expertise on current research development, trend and future direction of aquatic animal health industry. Hope to see you all there with family and friends.



## WHY MALAYSIA?

- Share Common Problem in Aquatic Animal Health (Emerging or Re-Emerging Diseases) in Asia
- Research Institutional Focusing on Aquaculture
  - Strong Government Support
  - Strong Relevant Industries Support
  - Value for Money
- Multi-Lingual & Multi Cultural Country



#### **OUR DESTINATION ATTRACTIONS**



Irrawady Dolphin & Mangrove Tour



**Gunung Gading National Park** 



Down to the Ground with Nature at Bako National Park



Sarawak Cultural Village



Kuching 'Cat' City Tour



Kayaking in the Rainforest



Semenggoh Wildlife National Park



Fairy and Wind Cave



Electronic Newsletter of Fish Health Section - Asian Fisheries Society No. 16, January 2019



### **Upcoming Events**

### OIE Global Conference on Aquatic Animal Health

The OIE Global Conference on Aquatic Animal Health with the theme Collaboration, Sustainability: Our Future is being held at Santiago, Chile, 2-4 April 2019. The Conference will be by invitation but will also include a limited number of places for interested individuals depending on space available. Please register on the Conference site at <a href="http://www.oie.int/aquatic-conference2019">www.oie.int/aquatic-conference2019</a>. For more information, please visit the website: <a href="http://oie.int/fileadmin/Home/eng/Media\_Center/docs/pdf/Aquatic-conference/EN\_FLYERAAH\_2019.pdf">http://oie.int/fileadmin/Home/eng/Media\_Center/docs/pdf/Aquatic-conference2019</a>. For more information, please visit the website: <a href="http://oie.int/fileadmin/Home/eng/Media\_Center/docs/pdf/Aquatic-conference/EN\_FLYERAAH\_2019.pdf">http://oie.int/fileadmin/Home/eng/Media\_Center/docs/pdf/Aquatic-conference2019</a>. For Media\_Center/docs/pdf/Aquatic-conference/EN\_FLYERAAH\_2019.pdf

#### **12<sup>th</sup> Asian Fisheries And Aquaculture Forum**

The Asian Fisheries Society in partnership with the University of the Philippines Visayas and the University of the Philippine Visayas Foundation, Inc is hosting the 12th Asian Fisheries and Aquaculture Forum on 8-12 April 2019 to be held at the Iloilo Convention Center, Iloilo City, Philippines. The conference will showcase recent advances in fisheries and aquaculture research and development in Asia. The theme of the forum is "Transforming Asian Fisheries and Aquaculture for Sustainable Production and Nutrition." For more information, please visit the website: <u>http://12afaf.net/</u>

### EcoAqua Conference for Sustainable Aquaculture

The French National Research Institute for Sustainable Development (*Institut de Recherche pour le Developpement*, IRD) in partnership with the Indonesian Research Institute for Freshwater Aquaculture and Fisheries Extension (RIFAFE) are organizing an EcoAqua Conference to be be held from 28 to 30 October 2019 in Jakarta, Indonesia. The conference aims to address the need for increasing aquaculture productivity whilst mitigating collateral ecological impacts. The theme of the conference is "Ecological Intensification: A New Paragon for Sustainable Aquaculture". For details please visit the website https://www.ecoaquaconference.org/

### 3<sup>rd</sup> International Conference on Fish and Shellfish Immunology

International Society of Fish and Shellfish Immunology is organising 3rd International Conference on Fish and Shellfish Immunology during June 16-20, 2019 at Gran Canaria, Spain. The Congress will provide the excellent opportunity to meet experts, exchange information, and strengthen the collaboration among Directors, Researchers, Associate Professors, and Scholars from both academia and industry. The program will provide a platform for robust discussions on recent advancements and new strategies for current revolutions in fish and shellfish immunology. For details, please visit the website http://isfsi2019laspalmas.com/welcome/

#### Asian-Pacific Aquaculture 2019

Asian-Pacific Aquaculture 2019 (APA'19) with the theme Aquaculture for Health, Wealth and Happiness is being organized by World Aquaculture Society at Chennai Trade Centre Tamil Nadu, India during June 19-21, 2019. APA'19 is hosted by Tamil Nadu Fisheries University in association with ICAR-Central Institutes, SAU's & SAP. The conference will cover all aspects of aquaculture in India as well as Southeast Asia. The deadline for submission of abstracts is January 31, 2019. For details, please visit the website https://www.was.org/Meeting/pdf/APA2019RegBro.pdf

#### FAO and NACA 2020 to convene Global Conference on Aquaculture

FAO and NACA have signed an agreement to convene a global conference on aquaculture in 2020. This will be the fourth conference in a series that began at the dawn of the industry in Kyoto, 1976. The FAO Technical Conference on Aquaculture was the first mainstream international aquaculture meeting. FAO and NACA convened the second conference in Bangkok, 2000. The Global Conference on Aquaculture in the Third Millennium reviewed progress. The Global Conference on Aquaculture. Aquaculture 2010, Phuket reviewed the changing role of aquaculture. Aquaculture 2020 will be held late September in Shanghai, China. Arrangements, programme and partner details will be announced via the NACA website in due course. For details please visit the website https://enaca.org/?id=1025&title=fao-and-naca-to-convene-global-conference-on-aquaculture-2020





## **RECENT PUBLICATIONS**



#### TILAPIA LAKE VIRUS Expert knowledge elicitation risk assessment

FAO. 2018. Tilapia lake virus (December 2018). FAO Animal Health Risk Analysis – Assessement Issue No. 7. Rome, FAO

http://www.fao.org/3/CA2864EN/ca2864en.pdf



Acute hepatopancreatic necrosis disease (AHPND). 2018. edited by J.R Arthur and M.G. Bondad-Reantaso. Asian Fisheries Science. Volume 31S (2018)

https://www.asianfisheriess ociety.org/publication/archi vedetails.php?id=152&q=1 &fbclid=IwAR3SdX2UyMI1t wHyXvmzYihhH8GXiL8zqt mPnkY2HQ6J2w4NF\_MtR vwWODs

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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 2020. All the members are requested to share important news or other information that would be useful for the members of FHS.

eNewsletter Editorial Team

