WEDNESDAY, November 30

WELCOME, PLENARY KEYNOTE AND AWARDS
Wednesday, November 30    09:00 - 10:20    Garnet Hall
Master of Ceremonies: Mary Thomas

Jennifer Blair, WAS President
WELCOME

Farshad Shishehchian, Co-Chair
Leong Hon Keong, Co-Chair
Guillaume Drillet, Co-Chair
COMMENTS FROM THE STEERING COMMITTEE

09:15   Matthias Halwart
AQUACULTURE FOR FOOD SECURITY AND SUSTAINABLE DEVELOPMENT

09:45   Grace Fu
KEYNOTE BY MINISTER FOR SUSTAINABILITY AND THE ENVIRONMENT,
REPUBLIC OF SINGAPORE

10:15   WAS Awards and Signing Ceremony

10:25   Ribbon Cutting – Official Opening of the Exposition
**CARP / MAHSEER / EELS**

Wednesday, November 30  11:20 - 13:00  Opal 103  
Chair: S.M. Nurul Amin

11:20  **Ngoc Minh Ngan Bui,** Jasmine Heyse, Jérôme Delamare-Deboutteville, Ruben Props, Colin Shelley  
**MANIPULATING BACTERIAL COMMUNITIES IN CARP POLYCULTURE – THE NEXT FRONTIER FOR INTENSIFICATION?**

11:40  **Isagani P. Angeles Jr.,** Raymond M. Pascua  
**REARING PERFORMANCE AND DISEASE RESISTANCE OF FRESHWATER EEL Anguilla sp. FED DIET WITH DIFFERENT LEVELS OF WATER FERN Azolla filiculoides EXTRACT FOLLOWING Aeromonas hydrophila INFECTION**

12:00  **Shahid Mahboob,** Sana Shahid, Tayyaba Sultana, Salma Sultana, Bilal Hussain  
**DETECTING AQUATIC POLLUTION USING HISTOLOGICAL INVESTIGATIONS OF THE GILLS, LIVER, KIDNEY, AND MUSCLES OF Oreochromis niloticus**

12:20  **Goldyn Anne Aquino,** Patrick Cabaitan, Katsumi Tsukamoto  
**SALINITY PREFERENCE AND GROWTH OF GLASS EEL Anguilla marmorata (ANGUILLIFORMES: ANGUILLIDAE) EXPOSED TO DIFFERENT SALINITY LEVELS**

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**HATCHERY MANAGEMENT**

Wednesday, November 30  11:20 - 13:00  Peridot 202  
Chairs: Jennifer Cobcroft, Chris Stock  
Sponsor: [Zeigler](#)  
*nutrition through innovation*

11:20  **Thumronk Amornsakun,** Sajeenuth Srithongthum, Sarawuth Chesoh, Sitthisak Jantarat, Lim Leong Seng, Nobuo Suzuki, Yutaka Takeuchi, Anuar Hassan  
**STUDY ON SULTAN FISH Leptobarbus hoevenii (BLEEKER, 1851) PROPAGATION**

11:40  **Sahar Mejri Chauffour,** Victoria Uribe, Paul Wills, Jonathan Shenker, Aaron Adams  
**A COMPREHENSIVE BIOCHEMICAL CHARACTERIZATION OF SETTLEMENT STAGE Leptocephalus LARVAE OF BONEFISH Albula vulpes**

12:00  **Carmen Navarro-Guilén,** Ismael Jerez-Cepa, André Lopes, Sofia Engrola  
**CAN AMINO ACIDS SUPPLEMENTATION IMPROVE RESILIENCE AGAINST CHALLENGING CONDITIONS IN FISH LARVAE?**
AQUACULTURE IN SINGAPORE
Wednesday, November 30  11:20 - 13:00  Opal 105

11:30  Sharing of local aqua landscape by SFA

11:40  Sharing of SS Clean and Green Urban Farms – Aquaculture Standard by SFA

11:50  Presentation by ACE: Mr Leow BT on Going Forward with World Class Sustainability Practices for Seafood Production

12:05  Presentation by BG: Ying Quan on Barramundi Group: Scaling up Barramundi production across Asia using Open Net-Pen systems (title tbc)

12:20  Presentation by SAT: Michael Voigtmann on ‘Data Mining & Analytics in Modern RAS Systems’

12:35  Presentation by VO: John Diener on ‘The Role Recirculating Aquaculture Can Play in Sustainable Food Security’

12:50  Presentation by Blue Aqua: Dr Farshad Shishehchian on ‘Defining Profitable Urban Farming in Aquaculture’

CULTURE SYSTEMS (CAGES, PONDS, RACEWAYS)
Wednesday, November 30  11:20 - 15:40  Topaz 220
Chair: Zuridah Merican

DIETARY NON-STARCH POLYSACCHARIDES INFLUENCED NATURAL FOOD WEB AND FISH PRODUCTION IN SEMI-INTENSIVE POND CULTURE OF NILE TILAPIA

11:40  Adel Hosseinzani, Mohammad Sayyadbourani, Mohaddeseh Ahmadnezhad, Esmaeil Sadeghinejad
A REVIEW OF THE STATUS AND DEVELOPMENT REQUIREMENTS FOR CAGE AQUACULTURE IN THE SOUTH CASPIAN BASIN (IRANIAN OFFSHORE)

12:00  Gianmarco David, Paulo Cesar von Krüger, Clovis Ferreira do Carmo, Eduardo M. Brambilla, Reinaldo José da Silva
REAL TIME WATER QUALITY MONITORING IN BRAZILIAN HYDROELECTRIC RESERVOIRS FOR PREVENTION OF ENVIRONMENTAL RISKS TO CAGE AQUACULTURE
12:20  Tanakorn Lothaka, Chuchai Kanjanamayoon, Lukas Manomaitis
QUALITY ANALYSES OF NILE TILAPIA Oreochromis niloticus CULTURED IN AN
IN-POND RACEWAY SYSTEM (IPRS) IN PHETCHABURI PROVINCE, THAILAND

12:40  Benjamin Clokie, Ahmed Elsheshtawy, Are Nylund, Trond Einar Isaken,
Linda Andersen, Allan Beveridge, Simon MacKenzie
IMPACT OF NET CLEANING ON ATLANTIC SALMON Salmo salar GILL HEALTH

13:00  Alireza Valipour, Ali Hasanpour, Hossein Mousapour, Naser Safarzadeh,
Hossein Asgari, Bahman Mohammaditabar, Ali Alizadeh Najd, Danial Goroohi,
Soheil Lesani
INVESTIGATING THE GROWTH OF YEARLING Rutilus kutum IN EARTHEN
PONDS

BLUE ECONOMY
Wednesday, November 30   11:20 - 15:40   Opal 101
Chair: Chris Carter

11:20  John Whittington, Angela Williamson
DEVELOPING AN AMBITION FOR AQUACULTURE BEYOND 2023 – A TASMANIAN
CASE STUDY

11:40  Chris Carter, Lindsey White, Irene Penesis, Angela Williamson, John Whittington
THE BLUE ECONOMY COOPERATIVE RESEARCH CENTRE PATH TO
SUSTAINABLE INTEGRATED SYSTEMS FOR OFFSHORE AQUACULTURE: THE
BUILDING BLOCKS

12:00  Peter Arbo
WHEN TECHNOLOGY FROM AQUACULTURE AND THE PETROLEUM INDUSTRY
MEET: THE TRANSFORMATION OF THE SALMON FARMING INDUSTRY IN
NORWAY

12:20  C.M. Wang, Y.I. Chu, J. Baumeister, H. Zhang, N. Abdussamie, I. Penesis
CHALLENGES AND DEVELOPMENTS IN OFFSHORE FISH PENS

12:40  Irene Penesis, Evan Gray, Nagi Abdussamie, Eloise Wilson, Alexander Pichard
DECARBONISING OFFSHORE AQUACULTURE OPERATIONS

13:00  LUNCH

14:00  Dawood Al-Yahyai, Wenresti Gallardo, Gerd Bruss, Dale Kiefer, Zach Siegrist
LONG TERM MODELLING OF BENTHIC EFFECTS OF THE SEABREAM CAGE
CULTURE FARM IN QURIYAT, OMAN, USING AQUAMODEL
14:20  **Van Mai Viet, Chan Le Thi Huyen**  
THE STATUS OF TRAWLERS AND GILLNETS (VESSELS OF < 90 CV) IN KIEN GIANG PROVINCE, VIETNAM

14:40  **Hongshun Yang, Chengchu Liu**  
CONSUMER’S CHOICE: FARM-RAISED VS. WILD-HARVESTED SEAFOOD?

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**SEA BASS AND SEABREAM**  
Wednesday, November 30  11:20 - 17:40  Peridot 204  
Chairs: Ching Fui Fui, Liew Woei Chang

11:20  **Gen Hua Yue**  
AQUACULTURE AND THE BREEDING PROGRAM OF ASIAN SEABASS IN SINGAPORE

11:40  **Jose A. Domingos, Julie A. Goldsbury, Giana Bastos Gomes, Christopher Tomlinson, Brett Smith, Tim Bade, Justin Forrester, Dean R. Jerry**  
GENOTYPE BY ENVIRONMENT INTERACTIONS OF HARVEST GROWTH TRAITS FOR BARRAMUNDI *Lates calcarifer* FARmed IN MARINE AND FRESH WATER CONDITIONS

12:00  **Md Jakiul Islam, Andreas Kunzmann, Rajko Thiele, Matthew Slater**  
WHAT THE HEMATOLOGICAL, METABOLIC AND MOLECULAR STRESS RESPONSE COULD TELL US ABOUT CLIMATE CHANGE-INDUCED HYPOSALINE EXTREME WARM WATER: THE CASE OF EUROPEAN SEABASS *Dicentrarchus labrax*

12:20  **Jose A. Domingos, Loic Monteil, Celestine Terence, Yann Monteil, Emmanuel de Braux, Markus Schrittweiser, Joep K. Staarman, Saengchan Senapin, Ha Thanh Dong, Shannon Clarke, Rudiger Braunig, Andrew Hess, Joseph Angelo Uichanco, Xueyan Shen, Susan Kueh, Dean R. Jerry**  
HERITABILITY OF SCALE DROP DISEASE VIRUS RESISTANCE IN BARRAMUNDI *Lates calcarifer*

13:00  **LUNCH**

14:00  **Rafidah Binti Othman, Han-Ping Wang, Hiam Elabd, Dingkun Xie, Hong Yao, Paul O’Bryant, Dean Rapp**  
THE EFFECT OF DENSITY ON SEX DIFFERENTIATION, SEXUAL DIMORPHISM, STRESS, AND RELATED GENE EXPRESSION IN YELLOW PERCH
WEDNESDAY

14:20 Fui Fui Ching, Mohammad Nor Syafizan Mohammad, Cheong Johannes Zheng Dao, Norfazreena Mohd Faudzi, Shigeharu Senoo
HIGH MORTALITY AND SEVERE ABNORMALITY OF ASIAN SEABASS *Lates calcarifer* LARVAE REARED IN ELEVATED TEMPERATURE AND ACIDIFIED SEAWATER

14:40 Jongho Lim, Kyeong-Jun Lee
EFFECT OF DIETARY PREBIOTICS AND PROBIOTICS ON INNERE IMMUNITY, ANTI-OXIDANT CAPACITY, HEMATOLOGICAL PARAMETERS AND INTESTINAL MICROBIOTA OF RED SEABREAM *Pagrus major*

15:00 Edoardo Pantanella, Joseph Laranja, Asaad Mohamed, Paulo de Mello, Seemab Zehra, Reda Saleh, Aboobucker Abulkasim, Ali Al Shaikhi, Abdulaziz Al-Suwailem
CULTURE OF ASIAN SEABASS *Lates calcarifer* IN THE RED SEA

15:20 Zhixuan Loh, Xuelu Huan, Sunita Awate, Markus Schrittwieser, Laurent Renia, Ee Chee Ren
MOLECULAR DIVERSITY OF MHC CLASS I IN ASIAN SEABASS *Lates calcarifer*

DISEASE DIAGNOSIS AND TREATMENT METHODS
Wednesday, November 30  11:20 - 17:40  Garnet 218
Chairs: Giana Bastos Gomez, Diana Chee, Rodrigo Belmonte

11:20 Neetu Shahi, Sumanta Mallik
WHOLE GENOME SEQUENCE OF EMERGING ZOONOTIC BACTERIAL PATHOGEN *Lactococcus garvieae* RTCLI04 ISOLATED FROM FOOD FISH, RAINBOW TROUT *Oncorhyncus mykiss* IN INDIA REVEALED PRESENCE OF SEVERAL VIRULENT AND ANTIMICROBIAL RESISTANT GENES IN ITS GENOME

11:40 Syed Musthaq Syed Khader, Miyata Masato, Nurshahidah Ali, Alden Toh, Sakinah Mulyana, Saravanan Padmanabhan, Diana Chan Pek Sian, Chee Wee Lee
RAPID ON-SITE DETECTION OF FISH IRIDOVIRAL DISEASE

12:00 Jing Chen, Xinyu Toh, Jasmine Ong, Yahui Wang, Xuan-Hui Teo, Bernett Lee, Pui-San Wong, Denyse Khor, Shin-Min Chong, Diana Chee, Alvin Wee, Yifan Wang, Mee-Keun Ng, Boon-Huan Tan, Taoqi Huangfu
DETECTION AND CHARACTERIZATION OF A NOVEL MARINE BIRNAVIRUS ISOLATED FROM ASIAN SEABASS IN SINGAPORE
A COMPARATIVE STUDY OF THE PATHOLOGY ASSOCIATED WITH SCALE DROP VIRUS AND *Lates calcarifer* HERPESVIRUS IN ASIAN SEABASS *Lates calcarifer*

FOLLOWING THE INFECTION PROCESS OF VIBRIOSIS IN PACIFIC OYSTER *Crassostrea gigas* AND BLUE MUSSEL *Mytilus edulis* LARVAE USING FLUORESCENCE LABELING AND HISTOPATHOLOGY METHODS

DEVELOPMENT OF PCR TECHNIC WITH SPECIFIC PRIMER FOR QUICK DETECTION OF BACTERIAL PATHOGEN CAUSING *ICE* DISEASE ON SEAWEED

SCALE DROP DISEASE VIRUS (SDDV) IN BARRAMUNDI: CURRENT UNDERSTANDING OF ITS CLINICAL PRESENTATION, PATHOLOGY, AND MANAGEMENT

SODIUM PERCARBONATE (SPC) FOR PARASITE MANAGEMENT IN TROPICAL MARINE AQUACULTURE

EMAMECTIN BENZOATE TREATMENT OF HYBRID GROUPER INFECTED WITH SEA LICE IN HONG KONG

ANTIMICROBIAL ACTIVITY OF DIFFERENT ORGANIC ACIDS AGAINST *Vibrio* spp. *IN VITRO*

MULTI-TISSUE PROTEOMIC ANALYSES REVEALS THE IMMUNE REGULATORY EFFECTS OF SANACORE®GM IN MARINE FISH
16:40  Hidehiro Kondo, Channapha Sakseepipad, Reiko Nozaki, Yutaka Fukuda, Hidemasa Kawakami, Ikuo Hirono  
WHOLE GENOME SEQUENCE COMPARISON OF RED SEABREAM IRIDOVIRUS ISOLATED FROM CULTURED MARINE FISH IN JAPAN

17:00  Rosmiati, Andi Tenriulo, Nurhidayah, Andi Parenrengi, Emma Suryati  
ISOLATION AND IDENTIFICATION OF AAPTAMINOID FROM Aaptos aaptos AND ITS POTENTIAL USE IN VIBRIOSES PREVENTION

**ANIMAL WELFARE, QUARANTINE AND CERTIFICATION**  
Wednesday, November 30  11:20 - 17:40  Peridot 201  
Chairs: Sonia Rey Planellas, Rafidah Othman

11:20  Dave Little, Jimmy Turnbull, Sonia Rey Planellas, Amaya Albalat  
IMPROVING FISH WELFARE IN ASIA: A NEW APPROACH

11:40  Olugbenga Orisasona, Ibrahim Adesina, Titilayo Joseph, Abimbola Olanrewaju  
EFFECT OF ETHANOL-EXTRACT OF Monodora myristica ON GROWTH PERFORMANCE, GUT ABSORPTION AREA, SERUM BIOCHEMISTRY AND HAEMATOLOGICAL INDICES OF Clarias gariepinus FINGERLINGS

12:00  Nipa Gupta, Gavin J. Partridge, Nicky Buller, Andrew Currie, Alan J. Lymbery  
PATHOGENESIS OF Photobacterium damselae subsp. damselae INFECTIONS IN AUSTRALIAN YELLOWTAIL KINGFISH Seriola lalandi

12:20  Stephen Chan, Sandy Cheng, Karen Chan, Aaron Leung, Sophie St-Hilaire  
USE OF EMAMECTIN BENZOATE TO TREAT SEA LICE IN HYBRID GROUPER IN HONG KONG

13:00  LUNCH

14:00  Kaarunya Sampathkumar, Li Ling Tan, Mingyue Sun, Patricia Lynne Conway, Say Chye Joachim Loo  
FUNCTIONAL FEEDS FOR THE INHIBITION OF AQUACULTURE PATHOGENS

14:20  Irom B. Okey  
EFFICACY OF Ocimum gratissimum (SCENT LEAF) POWDER AS ANAESTHETIC AND ITS EFFECT ON THE HAEMATOLOGY OF Clarias gariepinus JUVENILES

14:40  Saravanan Padmanabhan, Syed Musthaq Syed Khader, Miyata Masato, Kenny Wong, Alan Lee, Fanny Ayumi Yasumaru, Diana Chan Pek Sian, Chee Wee Lee  
ORAL VACCINE AGAINST FISH IRIDO VIRAL DISEASE
15:00 Caroline Lei Wee, Marie Tan, Khin Moh Moh Aung, Jolin Tan, Kai Lin Chua, Gaynah Javier Doblado, Dinah Mardhiana Yusoff, Kai Xin Chua, Vindya Chaganty, Nur Asinah binte Mohamed Salleh, Yi Long Ng, Steven Fong, Shubha Vij, Xiao Di Su, Laura Sutarlie
CORRELATION OF ENDOGENOUS AND WATER CORTISOL LEVELS AFTER ACUTE STRESS IN ASIAN SEABASS *Lates calcarifer* IN A RECIRCULATING AQUACULTURE SYSTEM

15:20 Jackson Gross, Zarah Deutsch
CAPTIVE BOLT INDUCED CRANIAL CONCUSSIVE STUNNING TO IMPROVE FISH WELFARE FOR EUTHANASIA AND SLAUGHTER IN STURGEON AQUACULTURE

CRUSTACEANS
Wednesday, November 30  11:20 - 17:40  Peridot 206
Chairs: Greg Smith, Neviliappan Shanmugam

11:20 Humberto Villarreal, Jose Naranjo-Paramo, Mayra Vargas-Mendieta
WILL THE REDCLAW CRAYFISH *Cherax quadricarinatus* BE THE NEXT COMMERCIALLY IMPORTANT CRUSTACEAN FOR AQUACULTURE?

11:40 Brett O’Brien, Le Ma
OPTIMAL TEMPERATURE DEPENDANT GROWTH CHARACTERISTICS OF MATURE FRESHWATER CRAYFISH MARRON *Cherax cainii*

12:00 Sina Tönges, Vitor Coutinho Carneiro, Florian Böhl, Frank Lyko
EVALUATING INVASIVE MARBLED CRAYFISH AS A POTENTIAL LIVESTOCK FOR SUSTAINABLE AQUACULTURE

12:20 Gunamaya Patra, Bindu R. Pillai, Pramod K. Sahoo, Swagatika Mohanty, Namita K. Naik
IMPROVEMENTS IN REPRODUCTIVE PERFORMANCE OF FEMALE *Macrobrachium rosenbergii* (DE MAN) SELECTED FOR IMPROVED HARVEST WEIGHT IN INDIA

12:40 Cliford Arsa, Nguyen Thi Ngoc Anh
COMPARING PERFORMANCE OF *Gracilaria tenuistipitata* AND *Enteromorpha* sp. AS SHELTER IN NURSING MUD CRAB *Scylla paramamosain* CRABLETS

13:00 LUNCH

14:00 Fanny Yasumaru, Kenny Wong, Chen Jinhui, Ng Bo Kai, Deborah Chua, Diana Chan
DEVELOPMENT OF PELLETED FEEDS FOR MUD CRAB *Scylla serrata* REARED IN RECIRCULATED AQUACULTURE SYSTEM
14:20  Greg Smith, Quinn Fitzgibbon, Chris Carter, Andrew Trotter, Basseer Codabaccus, Jennifer Blair, Scott Parkinson
TROPICAL LOBSTERS – FROM THE RESEARCH LAB TO COMMERCIAL REALITY

14:40  Jaime Willis, Alice Harford, Quinn Fitzgibbon, Gregory Smith, Andrew Jeffs, Anthony Hickey
EFFICACY OF ISOBUTANOL TO DECREASE TRANSPORT STRESS OF JUVENILE TROPICAL ROCK LOBSTER Panulirus ornatus

15:00  Thomas Banks, Tianfang Wang, Quinn Fitzgibbon, Gregory Smith, Tomer Ventura
LOBSTERS DO NOT PLAY BY THE RULES: UNDERSTANDING THE RNA INTERFERENCE RESPONSE IN THE TROPICAL ROCK LOBSTER Panulirus ornatus TO PROMOTE AQUACULTURE BIOTECHNOLOGY

15:20  Courtney Lewis, Quinn Fitzgibbon, Gregory Smith, Abigail Elizur, Tomer Ventura
TRANSCRIPTOMIC ANALYSIS AND TIME TO HATCH VISUAL PREDICTION OF EMBRYO DEVELOPMENT IN THE ORNATE SPINY LOBSTER Panulirus ornatus

15:40  BREAK

16:00  Jennifer Blair, Scott Parkinson, John Breen, Sandra Infante-Villamil, Steven Gill, Quinn Fitzgibbon, Chris Carter, Andrew Trotter, Basseer Codabaccus, Greg Smith
COMMERCIAL-SCALE HATCHERY PRODUCTION OF TROPICAL ROCK LOBSTER – A NEW AQUACULTURE INDUSTRY

16:20  Chris G. Carter, M. Basseer Codabaccus, Andrea Wirtz, Michael Landman, Shuangyao Wang, Quinn P. Fitzgibbon, Greg Smith
NUTRITIONAL PHYSIOLOGY APPLIED TO ADVANCING LOBSTER NUTRITION WITH A FOCUS ON PROTEIN METABOLISM

16:40  Andrea Wirtz, Chris G. Carter, M. Basseer Codabaccus, Quinn P. Fitzgibbon, Debashish Mazumder, Ashley T. Townsend, Gregory G. Smith
NOVEL APPROACHES TO EVALUATE PROTEIN SOURCES FOR THEIR INCLUSION IN FEED FORMULATION FOR JUVENILE SLIPPER LOBSTER Thenus australiensis

17:00  Mohamed Codabaccus, Michael Landman, Chris Carter, Quinn Fitzgibbon, David Nichols, Greg Smith
EFFECTS OF DIETARY CHOLESTEROL AND PHOSPHOLIPID ON THE GROWTH PERFORMANCE OF JUVENILE SLIPPER LOBSTER Thenus australiensis

17:20  Assaf Shechter
CHALLENGING THE SINGLE SPECIES STRATEGY OF THE MOST WIDELY FARMED SEAFOOD
11:40  **Luís Conceição**, André Barreto, Wilson Pinto, Benjamin Costas, Rui Rocha  
DEVELOPMENT OF A FUNCTIONAL MICRODIET FOR WHITELEG SHRIMP POST-LARVAE

12:00  **Nelly Wabete**, Benedicte Lorgeoux, Célia Lemeu, Noémie Coulombier, Loic Le Dean,  
Thierry Jauffrais, Dominique Pham  
APPARENT DIGESTIBILITY OF MARINE MICROALGAE IN AQUAFEED FOR THE SHRIMP *Penaeus stylirostris*

12:20  **Le Van Khoa**, Haig Yousef Babikian, Rajeev Kumar Jha, Tigran K. Davtyan,  
Yusef Babikyan  
EFFICACY OF NATURAL ANTIMICROBIALS FROM BLENDED ESSENTIAL OILS FORMULATION AGAINST AHPND IN *Penaeus vannamei* IN VIETNAM

13:00  **LUNCH**

14:00  **Alex Diana**, Maye Walraven, Maxime Lefranc, Joao Lima  
EFFECT OF A NOVEL FUNCTIONAL INGREDIENT ON THE GROWTH PERFORMANCE AND DISEASE RESISTANCE OF PACIFIC WHITE SHRIMP *Litopenaeus vannamei*

14:20  **Tirawat Rairat**, Niti Chuchird, Arunothai Keetanon, Putsucha Phansawat  
EFFECTS OF BUTYRINS ON THE GROWTH PERFORMANCE, SURVIVAL RATE, AND *Vibrio* COUNTS IN PACIFIC WHITE SHRIMP *Litopenaeus vannamei*

14:40  **Wolfgang Koppe**, Niti Chuchird, Arunothai Keetanon, Tirawat Rairat,  
David A.H. Sutter, Ana Gavrau  
EFFECTS OF BETAINE ON SURVIVAL RATE, GROWTH PERFORMANCE, AND THE TOTAL NUMBER OF VIBRIO IN THE HEPATOPANCREAS AND INTESTINE OF PACIFIC WHITE SHRIMP *Litopenaeus vannamei*

15:00  **Hyunwoon Lim**, Kyeong-Jun Lee  
VITAMIN K REQUIREMENT OF PACIFIC WHITE SHRIMP *Litopenaeus vannamei*
15:20  **Gunho Eom, Kyeong-Jun Lee**  
DIETARY VITAMIN B5 REQUIREMENT OF PACIFIC WHITE SHRIMP *Litopenaeus vannamei*

15:40  BREAK

16:00  **Pierrick Kersanté, Eakapol Wangkahart, Po-Tsang Lee, Onanong Sanbut, Supap Nontasan, Anut Chantiratikul**  
FREE AMINO ACIDS MIX SUPPLEMENTATION ON DIET IMPROVES GROWTH PERFORMANCES, FEED UTILIZATION, ANTIOXIDANT AND IMMUNE RESPONSES, DIGESTIVE ENZYMES AND FATTY ACID COMPOSITION OF NILE TILAPIA FINGERLING *Oreochromis niloticus*

16:20  **Chuchai Kanjanamayoon, Tanakorn Lothaka, Lukas Manomaitis, Levy Manalac, Hsiang Pin Lan**  
EFFECTS OF DIFFERENT SOYBEAN MEAL INCLUSION LEVELS ON GROWTH PERFORMANCE OF PACIFIC WHITE SHRIMP IN TRANG PROVINCE, THAILAND

16:40  **William Riley, Orapint Jintasataporn**  
REPLACEMENT OF FISHMEAL BY CANOLA PROTEIN CONCENTRATE IN PACIFIC WHITE SHRIMP *Litopenaeus vannamei* DIETS ON GROWTH PERFORMANCE AND DIGESTIBILITY
FEED INGREDIENTS AND TECHNOLOGY
Wednesday, November 30    14:00 - 17:40 Garnet 216
Chairs: Leo Nankervis, Joe Kearns

Sponsor: GRAND Fish Feed

14:00 Sreedevi Padmanabhan, Ravindra Babu, RaviKumar Ganesan, Ezhil Subbian, Sadasivam J. Kaushik
MICROBIAL SCP AS A SUSTAINABLE PROTEIN SOURCE IN AQUAFEEDS

14:20 Mohamed Soula, Martína Ferreira Novio, Diego Mendez, Leticia Regueiro, Cristina Ancosmede, Xavier Iglesias, Belen Blanco, Laura Santiuste
MICROALGAE, INSECT MEAL AND COOKING WATER BY-PRODUCTS AS A SUSTAINABLE ALTERNATIVE IN FEED FORMULATION

14:40 Isobel Sewell, Gavin Partridge, Julian Partridge, Jan Hemmi
BLACK SOLDIER FLY LARVAE *Hermetia illucens* AS A PROTEIN ALTERNATIVE IN BARRAMUNDI *Lates calcarifer* AQUACULTURE DIETS

15:00 Gabriel Shola Solomon, Victor Tosin Okomoda, Josiah Esther Mikah
NUTRITIONAL PROFILE OF WATERMELON *Citrullus lanatus* SEED AND RIND MEAL: IMPLICATIONS FOR FISH NUTRITION

SOURCING PRACTICES MATTER MORE THAN INGREDIENTS FOR THE ENVIRONMENTAL FOOTPRINT OF SALMON AQUACULTURE FEEDS

15:40 BREAK

16:00 Joachim Loo, Manish Mohatra, Kaarunya Sampathkumar, Li Ling Tan, Anyu Zhang, Matthew Tan
FORMULATING FUNCTIONAL FISH FEEDS THROUGH MICROENCAPSULATION TECHNIQUES

16:20 Hadrien Delemazure
MAKING FLOATING AND SINKING FISH FEED WITH TWIN-SCREW EXTRUSION TECHNOLOGY

16:40 Joseph Kearns
EGYPTIAN FEED PRODUCTION MARKET FOR TILAPIA AND OTHER FRESH AND SALT WATER SPECIES, GRAND FISH FEED
STUDENT WORKSHOP  
CAREER PATHS IN AQUACULTURE: FROM INDUSTRY TO ACADEMIA  
Wednesday, November 30    14:00 - 17:40    Opal 105  
Chairs: Menaga Meenakshisundaram, Marina M. Rubio Benito, Nicole Rhody

All students are welcome to attend this session and networking opportunity. Leaders from Industry and Academia will present valuable information on career opportunities in these sectors. Speakers will be available after the talks to answer questions.

14:00  Introduction

14:10  Susan Gibson-Kueh  
James Cook University

14:25  Guillaume Drillet  
WAS Board Member and Co-Chair WA2022

14:40  Richard Le Boucher  
Research Director in Precision Aquaculture, Temasek Life Sciences Laboratory

15:00  Mihai Sun  
R&D Associate Director, Cargill

15:15  David Bal  
Head of Research Aquaculture Nutrition and Health, Adisseo

15:30  Antonio Garza  
WAS Past President

16:00  Felix Sugantham  
President, AQUAFIN, India & Past President of WAS-APC
LIVEFOOD CULTURE AND USE
Wednesday, November 30  14:00 - 17:40  Peridot 202
Chair: Natrah F.M. Ikhsan

Sponsor:

14:00  Muhammad Meezanur Rahman, Nguyen Van Hoa, Patrick Sorgeloos
NUTRITION SENSITIVE ARTEMIA POND CULTURE IN BANGLADESH

14:20  Yathish Ramena, Frank Martorana, Kala-Mallik Masala, Thomas Bosteels,
Vikas Kumar, Grace Ramena
THE POTENTIAL OF CO-FEEDING ARTEMIA TO IMPROVE HEALTH INDICES OF
Litopenaeus vannamei POST LARVAE IN THE NURSERY PHASE

14:40  Phil Brown, Thomas Bosteels, Brad Marden
MANAGING SALINITY FOR GREAT SALT LAKE Artemia DURING DROUGHT:
AN ADAPTIVE MANAGEMENT BERM PROVIDES A UNIQUE AND POWERFUL
TOOL

15:00  Brad Marden, Phil Brown, Thomas Bosteels
Artemia INDIVIDUAL AND POPULATION LEVEL ACCLIMATION TO SALINITY
INCREASES IN THE GREAT SALT LAKE, UTAH, USA

15:20  Thomas Bosteels, Phil D. Brown
IMPLEMENTATION OF TECHNICAL SOLUTIONS THAT SUPPORT SUITABLE
CONDITIONS FOR THE Artemia POPULATION ON GREAT SALT LAKE IN THE
FACE OF DECLINING LAKE LEVELS

15:40  BREAK

16:00  Timothy D. Hawkes
POLICY AND REGULATORY RESPONSES TO DECLINING WATER LEVELS AT
GREAT SALT LAKE WITH IMPLICATIONS FOR THE BRINE SHRIMP Artemia
franciscana RESOURCE

16:20  Rudi Bijnens, Geert Rombaut
THE IMPACT/ADVANTAGES OF GOOD LIVE FOOD PRACTICES: SIMPLIFICATION
AND STANDARDIZATION OF LIVE FOOD PRODUCTION LEADS TO MORE
EFFICIENT AND MORE CONSISTENT PRODUCTION

16:40  Yeong Yik Sung, Patrick Sorgeloos, Jie Huang
THE INTERNATIONAL ARTEMIA AQUACULTURE CONSORTIUM (IAAC)
14:00  Benedict Standen  
NEXT GENERATION MICROBIAL MANAGEMENT FOR SHRIMP PONDS

14:20  Stuart Arnold, Mauricio Emerenciano, Tim Perrin, Ashfaqur Rahman, Bryce Little  
COMMERCIAL SCALE R&D OF SUPER-INTENSIVE SHRIMP FARMING IN VIETNAM

14:40  Stuart Arnold, John McCulloch, Mingze Xi, Joel Dabrowski, Ashfaqur Rahman  
NOVEL PRECISION AQUACULTURE TECHNOLOGIES FOR PRAWN FARMING IN AUSTRALIA

15:00  Minh Anh Pham, Thao Ngoc Truong, Thanh Phong Chau, Marc Campet, Huynh Cuong Tran  
WATER USE EFFICIENCY, A KEY DRIVING FACTOR FOR FUTURE DEVELOPMENT OF WHITELEG SHRIMP Litopenaeus vannamei FARMING

15:20  Somesh Kumar, Somesh Kumar, Ivan Tay  
AI-POWERED PASSIVE ACOUSTIC FEEDING SYSTEM FOR SHRIMPS, IMPROVING FEEDING EFFICIENCY BY UP TO 30%

15:40  BREAK

16:00  Lukman Hakim, Endra Arif Wicaksono, Agung Setiarto, Syauqy Nurul Aziz, Liris Maduningtyas  
KERNEL PCA AND ENSEMBLE LEARNING FOR PREDICTING WATER ORGANIC MATTERS AND HARDNESS OF PONDS IN Penaeus vannamei CULTIVATION

16:20  Wiyoto, Sukenda, Kukuh Nirmala  
PACIFIC WHITE LEG SHRIMP Litopenaeus vannamei's BEHAVIOUR AND OXYGEN CONSUMPTION, AND SEDIMENT OXYGEN DEMAND AT DIFFERENT SEDIMENT REDOX POTENTIAL

16:40  Neil Arvin Bretana, Vishwa Vijaysheel, Masum Patel, Yee Ting Chung, Mary Ann Solis, Neslly Marie Bretana  
VARIABLES ASSOCIATED WITH A HIGH SURVIVAL RATE IN A CENTRAL PHILIPPINES SHRIMP FARM CULTURE
14:00  Suman Kumar Sahu  
VARIED VARIETY OF SUCCESSFUL FISH FARMING DONE IN THE CONCEPT OF FAMILY FISH FARMING IN HALDIA, WEST BENGAL

14:20  Dalhatu Y. Bawa, Muhammad A. Sulaiman, Rasaq Ibrahim  
AGE, GROWTH AND MORTALITY OF Bagrus bayad (FORSSKALL, 1775) FROM INLAND WATERS OF KEBBI STATE, NIGERIA

14:40  Austin Leefers  
CAST CAMBODIA: GROWING DOMESTIC FRESHWATER FISH VALUE CHAINS

ORNAMENTAL FISH  
Wednesday, November 30  16:00 - 17:40  Opal 101  
Chair: Meng Huat

16:00  Caroline Lei Wee, Dinah Mardhiana Yusoff  
RAPID DISCOVERY OF AQUACULTURE NUTRITIONAL INTERVENTIONS FOR INTESTINAL INFLAMMATION AND MICROBIAL DYSBIOSIS VIA A QUANTITATIVE ZEBRAFISH SCREENING PLATFORM

16:20  Randy Galutan  
COMPARATIVE ANESTHETIC EFFICACY OF CLOVE OIL, ALFAXALONE, KETAMINE, LIDOCAINE, MIDAZOLAM, AND PROPOFOL FOR IMMERSION ANESTHESIA IN ZEBRAFISH Danio rerio

16:40  Fanny Yasumaru, Bo Kai Ng, Timothy Tan, Joel Ho, Diana Chan  
FORMULATION OF FEEDS FOR GROWTH PERFORMANCE AND COLOUR PIGMENTATION IN FLOWERHORN CICHLID AND RANCHU GOLDFISH

17:00  Neviliappan  
THE EFFECT SUPPLEMENTS ON THE GROWTH PERFORMANCE OF JUVENILE RED CLAW CRAYFISH, Cherax quadricarinatus
STUDENT SPOTLIGHT PRESENTATIONS
Thursday, December 1   09:00 - 10:40   Opal 103
Chairs: Nicole Rhody, Marina M. Rubio Benito

World Aquaculture Singapore provides a unique opportunity to view research from a wide range of student scholars. Students will give abbreviated versions of their presentations during this session. Selection of these students was based upon evaluations of their abstracts. Students giving Lightning Round presentations will be judged by representatives from each of the respective societies. This is a great opportunity to see these award-winning students present their work in a competitive platform.

1. Md. Shirajum Monir
ASSESSMENT OF FEED BASED BIVALENT VACCINE AGAINST STREPTOCOCCOSIS AND MOTILE AEROMONAD SEPTICEMIA IN HYBRID RED TILAPIA Oreochromis spp.

2. Carl John Saromines
EVALUATION OF THE NUTRITIVE VALUE OF SEAWEED PROTEIN CONCENTRATE AS A SUSTAINABLE FEEDING INGREDIENT IN THE DIETS OF Penaeus monodon

3. Andrea Wirtz
NOVEL APPROACHES TO EVALUATE PROTEIN SOURCES FOR THEIR INCLUSION IN FEED FORMULATION FOR JUVENILE SLIPPER LOBSTER Thenus australiensis

4. Jaime Willis
EFFICACY OF ISOBUTANOL TO DECREASE TRANSPORT STRESS OF JUVENILE TROPICAL ROCK LOBSTER Panulirus ornatus

5. Irfan Zidni
ANTIBIOTICS AND ANTIOXIDANTS IMPROVED SPERM QUALITY OF SPOTTED HALIBUT Verasper variegatus DURING IN VITRO SHORT-TERM STORAGE

6. Md. Samsul Alam
WHOLE GENOME SEQUENCING AND DEVELOPMENT OF SNP MARKERS FOR ROHU CARP Labeo rohita HAMILTON
7. Jordan E. Elvy
THE RELATIONSHIP OF FEED INTAKE, GROWTH, NUTRIENT RETENTION AND OXYGEN CONSUMPTION TO FEED CONVERSION RATIO IN CHINOOK SALMON *Oncorhynchus tshawytscha*

8. Marie Colette
SHRIMP EARTH-POND SEDIMENT MICROBIOME EVOLUTION THROUGH HALOPHYTE CULTURE FOR BIOREMEDIATION PERSPECTIVES

**ENVIRONMENT PROBLEMS, CLIMATE CHANGE IMPACTS AND ADAPTATION IN AQUACULTURE AND FISHERIES**
Thursday, December 1  09:00 - 10:40  Topaz 220
Chair: Bibha Kumari

09:00  **Yongwen Gao**, Russell Svec
CARBON ISOTOPIC COMPOSITION OF GEODUCK SHELLS FROM PUGET SOUND INDICATES OCEAN ACIDIFICATION

09:20  **Siew Herng Chan**, Maria Pui Yi Yung, Elton Wenxiong Lim, Stefan Wuertz
FATE AND TRANSPORT OF MODEL MICROORGANISMS IN SEDIMENTS FROM AQUACULTURE ENVIRONMENTS

09:40  **Tan-Khang Nguyen**, Thanh-Tuyen Ho, Van-Manh Ngo, Minh-Hoang Le, Nhu-Thuy Mai
EFFECTS OF TEMPERATURE AND SALINITY ON LARVAL QUALITY OF GOLDEN TREVALLY *Gnathanodon speciosus*

10:00  **Madihah Jafar Sidik**, Nura Nabila Johari, Muhammad Ikhas Zabidi, Siti Nor Fatihah Zakaria
16-YEAR PATTERN OF SHRIMPS LANDING AND ITS RELATIONSHIP TO METEOROLOGICAL PARAMETERS IN KOTA KINABALU, SABAH MALAYSIA

10:20  **Ryuji Kojima**, Nobuyoshi Nanba, Cyril Glenn Perez Satuito
A LABORATORY BIOASSAY FOR EVALUATING THE EFFICACY OF ANTI-FOULING PAINTS ON *Ectocarpus siliculosus* USING ITS CIELAB COORDINATES, UNDER A FLOW-THROUGH CONDITION

10:40  **Tena Bujas**, Nikola Vladimir, Manuela Vukic, Marija Korican, Zdenko Tonkovic, Vladimir Soldo
ENVIRONMENTAL CONDITIONS IN THE ADRIATIC SEA WITH RESPECT TO THE DEVELOPMENT POTENTIAL OF OFFSHORE MARICULTURE
COBIA AND OTHER MARINE FISH
Thursday, December 1    09:00 - 12:40    Peridot 201
Chair: Sagiv Kolkovski

09:00 Molatelo Junior Madibana, Victor Mlambo
GROWTH PERFORMANCE AND HAEMO-BIOCHEMICAL PARAMETERS IN
SOUTH AFRICAN DUSKY KOB Argyrosomus japonicus, SCIAENIDAE OFFERED
BREWER’S YEAST Saccharomyces cerevisiae AS A FEED ADDITIVE

09:20 Sergio Nestor Bolasina
SPAWNING AND LARVAL FEEDING OF THE STREAMLINED SPINEFOOT Siganus
argenteus (QUOY & GAIMARD, 1825) IN THE REPUBLIC OF THE MARSHALL
ISLANDS

09:40 Joseph Laranja, Asaad Mohamed, Edoardo Pantanella, Paulo De Mello,
Seemab Zehra, Reda Saleh, Aboobucker Abul Kasim Siddik, Abdulaziz Al-Suwailem
CULTURE OF SNUBNOSE POMPANO Trachinotus blochii IN THE RED SEA

10:00 Ása Johannesen, Jóhannus Kristmundsson, Øystein Patursson, Signar P. Dam,
Pascal Klebert
SALMON MOVEMENT WITHIN A CAGE IS RESTRICTED BY A COMBINATION OF
WAVES AND CURRENT

PANGASIUS CATFISH
Thursday, December 1    09:00 - 12:40    Peridot 202
Chair: Jean Yves Mevel

09:00 Abdullahi Ibrahim
EFFECTS OF FEEDING TIME ON SURVIVAL RATES, GROWTH PERFORMANCE
AND FEEDING BEHAVIOUR OF CATFISH

09:20 Jeremiah Jimoh, Ademola M. Akinsorotan, John B. Olasunkanmi
EFFECT OF PROPHYLACTICS ON GROWTH AND HEMATOLOGY OF AFRICAN
CATFISH Clarias gariepinus (BURCHELL, 1822) FINGERLINGS

09:40 Tran Minh Phu, Pham Quang Vinh, Nguyen Quoc Thinh, Dang Thi Hoang Oanh,
Anders Dalsgaard, Masashi Maita
ANTIMICROBIAL USE PRACTICES TO CONTROL BACTERIAL DISEASES IN
VIETNAMESE STRIPED CATFISH AQUACULTURE
10:00  Imran Parvez, Rukaya Akther Rumi, Shirin Sultana, Md. Mahbubul Alam, Md. Ashraful Alam
DETECTION OF GENETIC DETERIORATION IN *Clarias batrachus* POPULATION THROUGH MITOCHONDRIAL GENES ANALYSIS IN BANGLADESH

10:40  BREAK

11:00  Zarirah Mohamed Zulperi, Amirah Syafiqah Zamri, Fatin Nabilah Mohamad Sahadan, Yuzine Esa
PHYLOGENETIC ANALYSIS OF GONADOTROPIN-RELEASING HORMONE (GnRH) GENES OF TROPICAL CATFISHES, *Pangasius nasutus* AND *Hemibagrus nemurus*

11:20  Jemuel Doctolero, Danica Sotero, Lorenz Fajardo
INDUCED SPAWNING OF AFRICAN CATFISH *Clarias gariepinus* USING PITUITARY GLANDS FROM PIG *Sus scrofa domesticus* AND GOAT *Capra aegagrus hircus*

SHRIMP SEED PRODUCTION AND HATCHERY MANAGEMENT
Thursday, December 1  09:00 - 12:40  Garnet 214
Chairs: Salin Krishna, Huang Yun Tzu
Sponsor: Zeigler

09:00  Adriana Artiles, Klara Verbyla, Melissa Allen, Jason Stannard, Debbie Plouffe, Alan Tinch, John Buchanan
USING DNA TOOLS TO IMPROVE THE GENETICS OF *L. vannamei* SHRIMP

09:20  John Buchanan, Klara Verbyla, Debbue Plouffe, Alan Tinch
GENOME EDITING AND THE FUTURE OF GENETIC IMPROVEMENT IN SHRIMP

09:40  Nolwenn Callac, Carolane Giraud, Nelly Wabete, Dominique Pham, Viviane Boulo
MICROBIAL BIOMARKER DETECTION IN SHRIMP LARVAL REARING WATER AS PUTATIVE BIOSURVEILLANCE TOOL FOR SHRIMP AQUACULTURE IN NEW-CALEDONIA
DISEASE DIAGNOSIS AND TREATMENT METHODS – CONTINUED
Thursday, December 1    09:00 - 12:40    Garnet 218
Chairs: Giana Bastos Gomez, Diana Chee, Rodrigo Belmonte

09:00  Rajeev Kumar Jha, Haig Yousef Babikian, Tigran K. Davtyan, Le Van Khoa, Yusef Babikyan
IDENTIFICATION OF V. parahaemolyticus PirAvp/PirBvp TOXINS POTENTIAL INHIBITORS IN ESSENTIAL OIL BLEND FORMULATION BY STRUCTURE-BASED VIRTUAL SCREENING APPROACH AND MOLECULAR DOCKING

09:20  Bibha Kumari
ARSENIC-INDUCED HISTOPATHOLOGICAL CHANGES IN THE OVARIES OF Heteropneustes fossilis

09:40  Segun Adeyemi, Lawee A. Yunusa, Zuleideen M. Garuba
SUB LETHAL EXPOSURE AND TOXICITY EFFECT OF LINEAR ALKYL BENZENE ON HAEMATOLOGY AND SERUM BIOCHEMISTRY IN Clarias angularis IN A STATIC BIOASSAY

10:00  Peng Lei, Sergio Rocha, Byron Maximiliano Morales Lange, Liv Torunn Mydland, Margareth Øverland
IMMUNOMODULATORY EFFECT OF HEAT-KILLED Lactobacillus plantarum L-137 IN ATLANTIC SALMON Salmo salar

10:20  Abubakar Muhammad Umar, Nur Adeela Yasid, Hassan Mohd Daud, Mohd Yunus Shukor
BEHAVIORAL CHANGES AND GILLS HISTOPATHOLOGICAL ALTERATIONS OF RED HYBRID TILAPIA Oreochromis sp. EXPOSED TO GLYPHOSATE HERBICIDE

10:40  BREAK
FISH INNOVATION LAB
Thursday, December 1    09:00 - 12:40    Opal 101
Chair: Amrit Bart

09:00  **Stephen Reichley**, Peter Allen, Lora Iannotti, Kathleen Ragsdale, Mary Read-Wahidi, Glenn Ricci, Joanna Springer, Elin Torrell, Mark Lawrence
THE FEED THE FUTURE INNOVATION LAB FOR FISH: ACHIEVING NUTRITIONAL SECURITY THROUGH BLUE FOODS

09:20  **Matthias Halwart**, Amrit Bart, Emmanuel K. Ajani, Oluwafemi Ajayi, Bamidele O. Omitoyin, Esendugue G. Fonsah, Gary Burtle, Austin Stankus, Yuan Xinhua, Oladeji K. Kazeem, Babatunde O. Oduntan, Annika Kolbe
LESSONS FROM INTRODUCTION OF INTEGRATED RICE-FISH SYSTEM IN NORTHERN AND SOUTHERN REGIONS OF NIGERIA

09:40  **Amrit Bart**, Matthias Halwart, Emmanuel K. Ajani, Oluwafemi Ajayi, Bamidele Omitoyin, Esendugue G. Fonsah, Gary Burtle, Austin Stankus
ECONOMIC AND HEALTH BENEFITS OF INTRODUCING FISH IN RICE PRODUCING FARMS OF NIGERIA

10:00  **M. Matiur Rahman**, M. Abdur Razzak, M. Rafiqul I. Sarder, Mariom, Terrence R. Tiersch
DEVELOPMENT OF CRYOGENIC SPERM BANK OF SILVER CARP *Hypophthalmichthys molitrix* AND SEED PRODUCTION IN COMMERCIAL HATCHERIES FOR BROOD BANKING

10:40  **BREAK**

11:00  **Ben Belton**, Mohammad Mahfujul Haque, Hazrat Ali, Amirpouyan Nejadhashemi, Ricardo Hernandez, Khondker Murshed-e-Jahan, Hannah Ferriby
HARNESSING MACHINE LEARNING TO ESTIMATE AQUACULTURE’S CONTRIBUTIONS TO THE ECONOMY OF SOUTHWEST BANGLADESH

11:20  **Hazrat Ali**, Ben Belton, Khondker Murshed-e-Jahan, Ricardo Hernandez, Mohammad Mahfujul Haque
THE STRUCTURE, CONDUCT, AND PERFORMANCE OF THE MIDSTREAM SEGMENTS OF THE AQUACULTURE VALUE CHAIN IN BANGLADESH

11:40  **Liz Ignowski**, Ben Belton
PRODUCTIVITY OF MICRONUTRIENTS FROM INTEGRATED AQUACULTURE-AGRICULTURE SYSTEMS: EVIDENCE FROM BANGLADESH
The Importance of Innovation in Aquaculture – A Perspective from APEC Policy Partnership on Food Security

Thursday, December 1  09:00 - 17:40  Opal 105
Chairs: Matthew Tan, Fengli Jiang

09:00  REGISTRATION

09:20  WELCOME ADDRESS
Dr Goh Lay Beng, Director, School of Applied Science, Temasek Polytechnic

09:25  A SUSTAINABLE SOLUTION TO WORLD FOOD POVERTY: TRANSFORMATIVE LAND BASED FARMING
Mr Desmond Chow, Founder & CEO of Singapore Crawfish Pte Ltd

09:50  DishTheFish AND THE CIRCLE OF SUSTAINABILITY
Mr Jeffrey Tan, CEO, Dishthefish Pte. Ltd

10:15  ALTERNATIVE LIPID SOURCE IN SEABASS DIET
Dr Arefin, Aquaculture Innovation Centre, Singapore

10:40  Exhibition, Posters and Refreshment Break at Exhibition Hall

11:00  MATERIAL SCIENCE INNOVATIONS FOR AQUACULTURE: ANTI THERMAL FILMS AND ANTI BACTERIA COATINGS
Professor Freddy Boey, National University of Singapore

11:25  OPPORTUNITIES FOR EXPANSION OF THE NORTHERN AUSTRALIAN AQUACULTURE INDUSTRY
Jennifer Cobcroft, Kyall Zenger, Jan Strugnell, Amy Diedrich, Rob Bell, Jess Fitzgerald, Simon Irvin, Greg Coman, Kylie Penehoe, Michael Davis, Kim Hooper, Jo-Anne Ruscoe, Dean Jerry

11:50  MICROBIOTA DIVERSITY STUDY IN RECIRCULATING AQUACULTURE SYSTEM
Mr Glendon Teo, Centre for Aquaculture and Veterinary Science, School of Applied Science, Temasek Polytechnic

12:15  DEMYSTIFYING CULTIVATED SEAFOOD AND THE ROLE IT PLAYS AS SUSTAINABLE FOOD IN THE FUTURE
Dr Lim Yong Kian, James, School of Applied Science, Temasek Polytechnic

12:40  LUNCH
14:00  WORKSHOP: GROW YOUR LIVE FEED CULTURE  
Mr Glendon Teo, Centre for Aquaculture and Veterinary Science, School of Applied Science, Temasek Polytechnic

15:40  Exhibition, Posters and Refreshment Break at Exhibition Hall

16:00  Exhibition and Networking

NUTRITION AND DIETARY REQUIREMENTS  
Thursday, December 1  09:00 - 17:40  Garnet 216  
Chairs: Van To, Wolfgang Koppe, Rajalekshmi M.

Sponsor: Kemin AQUASCIENCE

09:00  Eleni Ntokou, Nana Wentzel Thorringer, Enric Servet, Ignasi Sanahuja  
DIETARY EVALUATION OF SINGLE CELL PROTEIN IN DIETS FOR RAINBOW TROUT

09:20  Ufon-Ima J. Jackson, Lateef O. Tiamiyu, Sola G. Solomon  
GROWTH PERFORMANCE AND NUTRIENT UTILIZATION OF Clarias gariepinus FED SKINNED AND DEGLANDED TOAD MEAL AS REPLACEMENT FOR FISH MEAL

09:40  Isagani P. Angeles Jr., Jonathan M. Bolaños, Jonie C. Yee, Levy D. Madrid, Raymond M. Pascua  
GROWTH PERFORMANCE, IMMUNE RESPONSE AND DISEASE RESISTANCE OF NILE TILAPIA Oreochromis niloticus FED DIET WITH DIFFERENT LEVELS OF Amaranthus spinosus LEAF MEAL FOLLOWING Aeromonas hydrophila INFECTION

10:00  Sadia Nazir, Noor Khan, Sheeza Bano  
IMPACT OF VARIOUS DIETARY PROTEIN LEVELS ON THE SURVIVAL, GROWTH AND NUTRIENTS PROFILE OF Channa marulius FRY

10:40  BREAK

11:00  Marina Rubio Benito, Vikas Kumar, Nicholas Romano  
MITIGATION OF SOYBEAN MEAL-INDUCED ENTERITIS IN RAINBOW TROUT Oncorhynchus mykiss USING VITAMIN D AND GLUTAMINE AS DIETARY SUPPLEMENTS
11:20  Van To, Karthik Masagounder, Matthew Loewen
TRANSPORT PATHWAYS OF METHIONINE SOURCES IN THE INTESTINE OF RAINBOW TROUT *Oncorhynchus mykiss*

11:40  Sahar Mejri Chauffour, Rejean Tremblay, Céline Audet, Paul Wills, Martin Riche
ESSENTIAL FATTY ACID REQUIREMENTS IN TROPICAL AND COLD-WATER MARINE FISH LARVAE AND JUVENILES

12:00  Si Yan Ngoh, Katheline Hua
STUDY OF ENERGY UTILISATION EFFICIENCY IN EARLY JUVENILE MALABAR RED SNAPPER *Lutjanus malabaricus*

12:40  LUNCH

14:00  Richard Morgan, Selva Kumar Rasiah, Bradley Saville
SOLUBLE MANNO-OLIGOSACCHARIDES FOR PATHOGEN CONTROL IN AQUACULTURE

14:20  Analyn Baldove, Augusto Serrano Jr., Barry Leonard Tumbokon
EFFECTS OF DIFFERENT LEVELS OF *Pinus tabulaeformis* POLLEN ON GROWTH AND IMMUNE RESPONSE OF MILKFISH FRY *Chanos chanos*

14:40  Ryan Fabay, Augusto Serrano, Barry Leonard Tumbokon
EFFECTS OF DIETARY PH ON GROWTH AND FEED EFFICIENCY OF THE NILE TILAPIA *Oreochromis niloticus*

15:00  Dafna Israel
THE IMPORTANCE OF CHOOSING THE RIGHT ORGANIC ACIDS BLEND FOR AQUACULTURE FEED

15:20  Van Tien Nguyen, Krishnan Rajalekshmy Pradeep
CONTROLLING THE UNCONTROLLABLE IN A VUCA WORLD

15:40  BREAK

16:00  Jordan E. Elvy, Jane Symonds, Zoë Hilton, Seumas Walker, Louis Tremblay, Paula Casanovas, Neill Herbert
THE RELATIONSHIP OF FEED INTAKE, GROWTH, NUTRIENT RETENTION AND OXYGEN CONSUMPTION TO FEED CONVERSION RATIO IN CHINOOK SALMON *Oncorhynchus tshawytscha*

16:20  Javad Amiri, Felix Sugantham
A STUDY TO STANDARDIZE PROPER GROW OUT FEED FOR *Etroplus surentensis* AND DEMONSTRATE ITS PRODUCTION POTENTIAL IN BRACKISH WATER CAGES
16:40 Olusola Babalola
COMPARATIVE STUDIES AND PERFORMANCE CHARACTERISTICS OF AFRICAN CATFISH FRYS USING MICRO WORMS *Paragrellus redivivus* AND COPPENS CRUMBLES RESPECTIVELY

EPIDEMIOLOGY AND HEALTH MANAGEMENT
Thursday, December 1 09:00 - 17:40  Peridot 206
Chairs: Ruth Garcia Gomez, Chang Siow Foong, Win Suratchetpong

09:00 Richard Sayre, Tatiana Vinogradova-Shah, Elena Sineva, Susan Laramore, Eugene Parson, Diana Ballesteros, Nancy Mendoza, Sean Flattery
APPLICATION OF DIRECTED BIOTICS TO CONTROL VIRAL AND BACTERIAL PATHOGENS IN AQUACULTURE

09:20 Haig Yousef Babikian, Rajeev Kumar Jha, Tigran K. Davtyan, Yusef Babikyan
DESIGNING NATURAL ANTIMICROBIALS TO BLOCK THE CYTOTOXIC EFFECTS OF *Vibrio parahaemolyticus* PirAvp/PirBvp TOXINS

09:40 Dong Ha Thanh
ALTERNATIVES TO ANTIBIOTICS: CURRENT STATUS AND FUTURE TRENDS

10:00 Martha Mamora, Maria-Mercè Isern-Subich, Ruth Garcia, Martin Guerin, Waldo Nuez-Ortín
THE IMPORTANCE OF PREVENTIVE STRATEGIES IN MANAGING DISEASE RISK TO OPTIMIZE AND SUSTAIN AQUACULTURE YIELDS IN COMMERCIAL FARM SETTINGS

10:20 Dunhua Zhang, Dehai Xu, Craig Shoemaker, Benjamin Beck
TOWARD UNDERSTANDING FACTORS ASSOCIATED WITH OUTBREAKS OF MOTILE *Aeromonas* SEPTICEMIA IN CHANNEL CATFISH *Ictalurus punctatus*

10:40 BREAK

11:00 Christopher Payne, Kathryn Grace, Vo Hong Phuong, Le Hong Phuoc, Margaret Crumlish
CHARACTERISATION OF *Edwardsiella ictaluri* RECOVERED FROM CLINICAL DISEASE OUTBREAKS IN STRIPED CATFISH *Pangasiasonodon hypophthalmus* FARMS IN VIETNAM OVER A TWENTY-YEAR PERIOD

11:20 Margaret Crumlish, Julie Chambers, David Comerford, Phuong Vo Hong, Phuoc Le Hong, Ronan O’Carroll
VACCINATION STRATEGIES FOR STRIPED CATFISH *Pangasiasonodon hypophthalmus* FARMS IN VIETNAM TO PROMOTE RESPONSIBLE USE OF ANTIBIOTICS
11:40 Hoai Truong, Huong Giang Nguyen, Van Kim, Lua Dang, Ha Dong, Nhinh Doan
NEW EMERGING DISEASE CAUSED BY A HIGHLY VIRULENT *Edwardsiella ictaluri* STRAIN IN FARMED TILAPIA *Oreochromis* spp.

12:00 Win Surachetpong
POLYMICROBIAL INFECTIONS IN TILAPIA FARMS: MANAGEMENT AND THERAPEUTICAL POTENTIAL

12:20 Giana Bastos Gomes, Kate Hutson, Jose Domingos, Sandra Infante Villamil, Roger Huerlimann, Terrence Miller, Dean Jerry
INTERACTIONS BETWEEN PARASITIC PROTOZOA AND BACTERIAL MICROBIOME IN A TROPICAL FISH FARM

12:40 LUNCH

14:00 Pattanapon Kayansamruaj, Pattarawit Kerddee
PREVALENCE OF MEGALOCYTIVIRUS INFECTION AMONG INLAND CULTURED BARRAMUNDI *Lates calcarifer* DURING 2018 OUTBREAKS IN THAILAND: A PROACTIVE STUDY

14:20 Ruth Garcia Gomez, Martha Mamora, Martin Guerin
FUNCTIONAL ADDITIVES TO REDUCE THE IMPACT OF CO-INFECTIONS IN INTENSIVE SHRIMP FARMING

14:40 Hoai Truong Dinh, Tran The Vinh Vinh, Hoang Van Dung Dung, Dang Thi Hoa Hoa, Mai Van Tung Tung, Nguyen Thi Huong Giang Giang, Doan Thi Nhinh Nhinh, Ruth Garcia Gomez Garcia Gomez
EFFECT OF AN ESSENTIAL OIL-BASED FUNCTIONAL ADDITIVE ON REDUCTING THE IMPACT OF ECTOPARASITES AND IMPROVING GROWTH PERFORMANCE IN GROPER *Ephinephelus fuscoguttatus*

15:00 Andrei L. Barkovskii, James Prescott
ENVIRONMENTAL DRIVERS FOR SPATIAL AND TEMPORAL DISTRIBUTION OF *V. vulnificus* AND *V. parahaemolyticus* IN TRIPLOID *Crassostrea virginica* AQUACULTURE (SOUTH ATLANTIC, GEORGIA, USA)

15:20 Diem Nguyen-Ngoc, Roy Rosen, Timothy Jenkins, Ines Taschl, Ursula Hofstetter, Michele Muccio
MYCOTOXINS IN AQUACULTURE: OCCURRENCE IN FEED MATERIALS, EFFECTS ON AQUATIC SPECIES AND STRATEGIES TO COUNTERACT THEM
RAS, AQUAPONICS, AND INTEGRATED ORGANIC FARMING SYSTEMS
Thursday, December 1 09:00 - 17:40 Peridot 204
Chairs: Jean Yves Mevel, Leila Basti, Timothy Tan

09:00  Timothy A. Hovanec
NITRIFICATION IN RAS: MORE COMPLEX, MORE PLAYERS AND MULTIPLE PATHWAYS – WHICH ONE(S) DOMINATE?

09:20  Yoav Dagan, Erez Shalev, Hillel Milo
RAS SALMON PRODUCTION FOOD SECURITY PROJECTS IN TROPICAL ASIA

09:40  Jia Zin Khoo, Eng Wah Khoo
HOLISTIC DEVELOPMENT OF INDOOR RAS FARMING FROM FARMER TO FARMER

RECIRCULATING AQUACULTURE SYSTEMS INNOVATION: THE NEED FOR SMART SOLUTIONS TO ADDRESS DIVERSE FUTURE PRODUCTION NEEDS

10:20  Kurt Carlsen, Kurt Carlsen, Paul-Daniel Sindilariu
FLOATING RAS, A CLIMATCHANGE RESILIENT WAY OF MARINE AQUACULTURE PRODUCTION

10:40  BREAK

11:00  Nyiko C. Mabasa, Clifford L.W. Jones, Mark Laing
PRODUCTION OF CASH CROPS AND FISH WHILE TREATING BREWERY EFFLUENT IN CONSTRUCTED WETLANDS

11:20  Leila Basti
AQUAPONICS IN ARID ENVIRONMENTS: HISTORICAL OVERVIEW AND RECENT DEVELOPMENTS

11:40  Hussein Al-Masroori, Wenresti Gallardo, Adil Al-Sulaimani, Ahmed Al-Souti, Nora Ourabah Haddad, Ghady Chedrawi, Ziyin Zhang
STATUS AND PROSPECTS OF AQUAPONICS IN THE SULTANATE OF OMAN

12:00  Wenresti Gallardo, Mohammed Al-Mahfudhi, Michel Claereboudt, Shekar Bose
AQUAPONIC PRODUCTION OF HIGH-VALUE SPECIES IN A GREENHOUSE: TECHNICAL AND FINANCIAL FEASIBILITY
12:40  LUNCH

DIFFERENT CONCENTRATIONS OF NITRATE (NO₃⁻) FOR PRODUCING TOMATO SALADETTE *Solanum lycopersicum* Mill AND CHERRY *Solanum lycopersicum* Cerasiforme AND TILAPIA *Oreochromis niloticus* IN AQUAPONIC

14:20  Nassrin Mashaii, Farhad Rajabipour, Homayoun Hosseinzadeh Sahafi, Mahmoud Hafezieh, Alireza Ghaedi
A QUALITATIVE ANALYSIS OF THE AQUAPONIC SYSTEM PRODUCTS

14:40  Timothy A. Hovanec
AEROBIC AND ANAEROBIC HETEROPTROPHIC MINERALIZATION OF ORGANIC MATERIAL PRODUCED IN HYDROPONIC SYSTEMS – WHAT ARE THE DIFFERENCES?

15:00  Rosmin Elsa Mohan, Jennifer Tanadi, Eng Huat Khoo
UV-VIS INTENSITY MANIPULATION FOR GROWTH OF AQUATIC PLANTS

15:20  Marie Colette
SHRIMP EARTH-POND SEDIMENT MICROBIOME EVOLUTION THROUGH HALOPHYTE CULTURE FOR BIOREMEDIATION PERSPECTIVES

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**SHRIMP NUTRITION AND FEEDS – CONTINUED**
Thursday, December 1  09:00 - 17:40  Garnet 212
Chairs: Albert G.J. Tacon, Fanny Yasumaru

**Sponsor:**

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09:00  Duy Hoa Nguyen
MOTIV – AN INNOVATIVE INGREDIENT SERVED FOR A FUNCTIONAL SHRIMP FEED

09:20  Alberto Nunes, Lise Dalen, Geronimo Leonardi, Lena Burri
FORMULATION OF COST-EFFECTIVE AND HIGH-PERFORMANCE FEEDS FOR *Litopenaeus vannamei* WITH LOW FISH MEAL LEVELS
09:40 Arunothai Keetanon, Niti Chuchird, Tirawat Rairat, Putsucha Phansawat, Chi-Chung Chou, Joy Campbell
EVALUATION OF DIETARY SPRAY-DRIED PORCINE PLASMA ON IMMUNE PARAMETER IN PACIFIC WHITE SHRIMP Litopenaeus vannamei AND PREVENTION OF Vibrio parahaemolyticus INFECTION

10:00 Cameron Richards, Romain Menard, Niti Chuchird, Piet Verstraete, Franck Ducharme
EFFECTS OF INSECT MEAL AND INSECT OIL ON GROWTH PERFORMANCE, PROTEIN DIGESTIBILITY, AND RESPONSE TO CHALLENGE TEST WITH Vibrio parahaemolyticus IN WHITE SHRIMP Litopenaeus vannamei

10:20 Alberto Nunes, Lucas Rufino, Simone Pinheiro, Lena Burri
ASTAXANTHIN KRILL OIL IMPROVES THE GROWTH OF JUVENILE Litopenaeus vannamei RAISED UNDER OSMOTIC STRESS IN AN ENCLOSED-TANK CULTURE SYSTEM

10:40 BREAK

11:00 Carl John Saromines, Rex Ferdinand Traifalgar
EVALUATION OF THE NUTRITIVE VALUE OF SEAWEED PROTEIN CONCENTRATE AS A SUSTAINABLE FEED INGREDIENT IN THE DIETS OF Penaeus monodon

11:20 Alberto Nunes, Hassan Sabry-Neto, Lena Burri
EFFECT OF GRADED-LEVELS OF DIETARY ASTAXANTHIN KRILL OIL TO THE GROWTH PERFORMANCE OF NURSERY-REARED Litopenaeus vannamei

11:40 Dominique Corlay, Nutt Nuntapong, Wutiporn Phromkunthong, Naraíd Suanyuk
NATURAL PIGMENT FROM PARACOCCUS CAROTINIFACIENS (PANAFERD-AX®) ENHANCED COLOR AND IMMUNE SYSTEM OF PACIFIC WHITE SHRIMP Litopenaeus vannamei

12:00 Paul Engler, Vianney Rolland, Aung Win, Thanh Chau Nhut, Yin Min Thant, Loc Tran
LESS IS MORE – A NEW DIETARY STRATEGY TO OPTIMIZE WHITELEG SHRIMP Penaeus vannamei PIGMENTATION

12:40 LUNCH

14:00 Purushothaman Paramasivam, Rakha Devi Chakraborty
FEEDING ECOLOGY OF DEEP-WATER ARABIAN RED SHRIMP Aristeus alcocki Ramadan, 1938 (Decapoda: Penaeoidea: Aristeidae): FISHERIES MANAGEMENT PERSPECTIVE

14:20 Mohiuddin A Kabir Chowdhury, Albert Tacon
MOVING SHRIMP FARMING INDOORS: FEEDS AND FEEDING CONSIDERATIONS
14:40  Yathish Ramena, Femi Fawole, Frank Martorana, Thomas Bosteels, Krishna Singha, Amit Yadav, Vikas Kumar
INSIGHTS INTO THE INCREASED DIETARY LEVELS OF BRINE SHRIMP *Artemia franciscana* CO-FED WITH MICROPARTICLE DIETS IN THE REARING OF *Litopenaeus vannamei*

**WOMEN IN AQUACULTURE**
Thursday, December 1  11:00 - 12:40  Opal 103
Chair: Bibha Kumari

11:00  Amar Gaikwad, Neetha Shenoy, Arun Padiyar, Chadag Vishnumurthy Mohan, Debananda Bhanj, Sasikanta Acharya, Nivedita Palita, Sushreeta Sahoo, Binod Kumar Jena
NUTRITION-SENSITIVE FISH FARMING IN GRAM PANCHAYAT TANKS BY WOMEN SELF-HELP GROUPS IN ODISHA, INDIA

11:20  Marie Christine Monfort
GENDER EQUALITY, A GROWTH ENGINE FOR THE AQUACULTURE ECONOMY

**ENGINEERING AND INFORMATION TECHNOLOGY**
Thursday, December 1  14:00 - 15:40  Topaz 220
Chairs: Mary Chan Bee Eng, Wei Guangmin

14:00  Alex Hing, Brock Houston
IMPROVED AQUACULTURE MANAGEMENT USING IOT ENVIRONMENTAL MONITORING SYSTEMS

14:20  Midory Esmeralda Viguera Velazquez, Luis Pastor Sanchez F., Margarita Hernandez M., Jose Juan Carbajal H.
WATER QUALITY MODELLING IN INTENSIVE CULTURE USING A WEIGHTED FUZZY INFERENCE SYSTEM

14:40  Durga Venkata Prasad Ramena
OPTIMIZATION OF CUTTING PARAMETERS DURING THE MACHINING PROCESS USING GREY RELATION ANALYSIS
INTERNATIONAL TRIBUTE TO ALAIN MICHEL
Thursday, December 1    14:00 - 17:40    Opal 101
Chair: Régis Bador

14:00  **Regis Bador**
A SUMMARY OF ALAIN MICHEL CONTRIBUTIONS TO MODERN EVOLVING TROPICAL AQUACULTURE

14:20  **Regis Bador**, Marc Le Groumellec
*L. stylirostris* FIRST SPECIFIC PATHOGEN RESISTANT STRAIN DEVELOPMENT IN TAHITI AND NEW CALEDONIA SINCE 1975

14:40  **Luis Fernando Aranguren Caro**, Muriel Gomez-Sanchez, Yahira Piedrahita, Hung Mai, Roberto Cruz, Rod Alenton, Arun Dhar
CURRENT STATUS OF INFECTION WITH INFECTIOUS HYPODERMAL AND HEMATOPOIETIC NECROSIS VIRUS (IHHNV) IN THE PERUVIAN AND ECUADORIAN SHRIMP INDUSTRY

15:00  **Cedric Komar**, Alain Michel, Hubert Crieloue, Eric Vigne, Lauke Labrie, Adrian Astier, Roberto Cascione, Luc Grisez, Neil Wendover, Mark Amechi, Jérôme Bosmans
COMPLEMENTARITY BETWEEN HEAT-SHOCK TREATMENTS AND VACCINATION IN BARRAMUNDI AND TILAPIA: EMPIRICAL AND LABORATORY EXPERIENCES BASED ON ALAIN MICHEL METHODOLOGY AND FINDINGS BETWEEN 2005 AND 2022

INTEGRATED MANAGEMENT AND SUSTAINABLE DEVELOPMENT IN AQUACULTURE
Thursday, December 1    14:00 - 17:40    Opal 103
Chairs: Lam Toong Jin, TJ lam, Farshad Shishehchian

14:00  **Wan Aik Desmond Lee**
APPLICATION OF AANDERAA MONITORING SYSTEMS IN AN OFFSHORE SINGAPORE AQUACULTURE FARM

14:20  **Joshua Heumüller**, Joana P.C. Cruz, Luciane R. Favareto, Pedro M. Oliveira, Ana C. Brito
ENVIRONMENTAL MONITORING OF OYSTER FARMING IN A TEMPERATE ESTUARY IN THE NORTH-EAST ATLANTIC (SADO, PORTUGAL)

14:40  **Perry Raso**
THE HORIZONTAL INTEGRATION OF A SHELLFISH FARM IN A BROADER BUSINESS MODEL
THURSDAY

15:00   Anastasios Baltadakis, Lynne Falconer, Trevor Telfer
MODELLING THE TECHNICAL AND BIO-MITIGATION POTENTIAL OF A COMMERCIAL IMTA SYSTEMS CONSISTING OF ATLANTIC SALMON *Salmo salar* AND SEA-CUCUMBERS *Holothuria forskali*

15:20   Jason Tan
DIGITAL TRANSFORMATION FOR AQUACULTURE INDUSTRIES

16:00   Farshad Shishehchian
SUSTAINABLE AQUACULTURE TECHNOLOGIES: SUPER-INTENSIVE SHRIMP FARM IN SINGAPORE

16:20   Liris Maduningtyas
END TO END SHRIMP FARMING

16:40   Jonathan Bester
SYNBIO SOLUTIONS FOR AQUACULTURE DISEASE PREVENTION: ANTI-VIBRIO PEPTIDES FOR THE SHRIMP INDUSTRY

17:00   Kit Yong
EASY ON-SITE DNA DIAGNOSTICS

17:20   Adi Goldman
FULLY BIO-BASED & FULLY BIODEGRADABLE PHBV POLYMERS, PROVIDING AN ALTERNATIVE TO FOSSIL-FUEL PLASTICS, WITH A SCALABLE, END-TO-END, FULLY BIOLOGICAL PROCESS

AQUACULTURE WATER QUALITY MANAGEMENT
Thursday, December 1   14:00 - 17:40   Garnet 218
Chairs: Fatimah Md Yusoff, Stefan Wuertz

14:00   Pawan Kumar Sharma, Stephan Sampath Kumar John, Senthil Kumar Vardaraju, Anand Samraj
ASSESSMENT OF CALCIUM CARBONATE EFFICIENCY IN ADJUSTING AMMONIA CONCENTRATION IN AQUACULTURE SYSTEMS

14:20   Andrew Villajuan, Enrique Dacal, Xiong Zhao, Bianca Florian, Tianyan Chen, Caren Quek
OXYGEN SUPPLEMENTATION SOLUTIONS AND THE BENEFITS IN AQUACULTURE

14:40   Stephen Gyamfi, Regina Esi Edziyie, Kwasi Adu Obirikorang, Daniel Adjei-Boateng, Peter Vilhelm Skov
WATER QUALITY DYNAMICS IN EARTHEN PONDS WITH AND WITHOUT FISH
15:00  Mary Chan, Penghui Zhang
MACROSCALE BEADS WITH ANTIBACTERIAL AND ANTIAMMONIA PROPERTIES FOR AQUACULTURE

15:20  Abdullah-Al Mamun, Shuva Bhowmik, David C. Little, Shakuntala H. Thilsted, Andrew L. Thorne-Lyman
FISH BY-PRODUCTS FROM CONVENTIONAL PROCESSING COULD BE USED FOR SUSTAINABLE AQUACULTURE

15:40  BREAK

16:00  Akeem Dauda, Zainab Bashir, Joseph Ikpe
INFLUENCE OF WATER CHANGING FREQUENCY ON GROWTH PERFORMANCE AND NUTRIENT UTILISATION OF TROPICAL FISH SPECIES

16:20  Sowdamini Sesha Prasad, Julia Blanchard, Duncan Cameron, Chris Carter
A NEW INTERDISCIPLINARY MODELLING APPROACH TO STUDY NUTRIENT FLUXES IN AQUACULTURE AND ECOSYSTEMS

16:40  Huajuan Mo, Su Ting Ng, Nur Shoofiyah, Cheong Yan Ong, Nur Sara, Shumin Yu, Boon Seng Kong, Niranjala Perrera, Raymond Ong, Wei Chem Foong, Umid Joshi, Guillaume Drillet
ANALYSING MICROPLASTICS IN WATERS AND SEDIMENTS AROUND FARMS IN URBANIZED AREAS

ECHINODERMS AND OTHER SPECIES
Thursday, December 1  14:00 - 17:40  Garnet 214
Chair: Nurzafirah Mazlan

14:00  Jay R. Gorospe, Marie Antonette Juinio-Meñez, Paul Southgate
GROWTH AND SURVIVAL OF SANDFISH Holothuria scabra JUVENILES REARED IN MARICULTURE IMPACTED AREA

14:20  Audrey Daning Tuzan, Nurul Ain Jais, Ben Parker, Sofia Johari, Wei Kang Chor, Victor Andin, Nurzafirah Binti Mazlan
SEA CUCUMBER FARMING IN TUN MUSTAPHA PARK, SABAH, MALAYSIA: CHALLENGES AND OPPORTUNITIES FOR DEVELOPING SUSTAINABLE COASTAL LIVELIHOODS

14:40  Ali Seyfoddin, Seyedehsara Masoomi Dezfooli, Noemi Gutierezz-Maddox, Andrea C. Alfaro
ENCAPSULATED PROBIOTICS TO IMPROVE THE GROWTH AND HEALTH OF Haliotis iris
TROUT
Thursday, December 1    14:00 - 17:40    Peridot 201
Chair: Sungchul Charles Bai

14:00  Xueweijie Chen, Shuanglin Dong, Yangen Zhou, Shisheng Ma, Jianfei Yu, Yunwei Dong, Qinfeng Gao
EFFECT OF LIGHT SPECTRUM AND LIGHT INTENSITY ON GROWTH AND IMMUNITY OF JUVENILE RAINBOW TROUT Oncorhynchus mykiss

14:20  Minh-Hoang Le, Trung Si Trang, Hich Vi Tran, Manh Van Ngo
GROWTH PERFORMANCE, HAEMATOLOGICAL PARAMETERS AND PROXIMATE COMPOSITION OF RAINBOW TROUT Oncorhynchus mykiss FED VARYING DIETARY LEVELS OF PROTEIN HYDROLYSATE FROM HEADS OF Penaeus monodon SHRIMP PROCESSING INDUSTRY

14:40  Jianfei Yu, Shuanglin Dong, Yangen Zhou, Yongkang Guo, Yunwei Dong, Qinfeng Gao
RESPONSE OF RAINBOW TROUT Oncorhynchus mykiss TO DIFFERENT GAS REPLENISHER IN TANKS

GROUPER AND SNAPPER
Thursday, December 1    14:00 - 17:40    Peridot 202
Chair: Lilian Wong

14:00  Erin Chung-Wei Tan, Sugania Vijayan, Beng-Chu Kua, Ann-Jie Goh, Muhammad Haziq Aiman
NOVEL METHOD FOR ERADICATION OF MARINE LEECH Zeylanicobdella arugamensis IN MARINE GROUPER FARMS

14:20  Leo Nankervis, Caroline Candebat, Adrien Marc, Thibault Eddie, Grace Butler
DEFINING THE NEED FOR SULPHUR AMINO ACIDS AND RELATED COMPOUNDS FOR GIANT GROUPER Epinephelus lanceolatus

14:40  Maximiliano Canepa, Anjanette Berding, Ryan Rossi, Matthew Reason, Richard Knuckey
RELATIONSHIP BETWEEN SWIM BLADDER INFLATION AND SPINAL DEFORMITIES IN GIANT GROUPER Epinephelus lanceolatus

15:00  Wei Li Quek, Amos Chee Boon Koh, Rudy Hidajat, Yong He, Yek Seng Foo
DEVELOPMENT OF HATCHERY TECHNOLOGY FOR RED SNAPPER Lutjanus spp.
15:20 Shubha Vij, Maria G. Nayfa, Liang Bing, Vu Nguyen, Joyce Koh, Celestine Terence, Jerryl Tan, Michael Voigtmann, Melvin Tan, Ban Tat Leow, Tim Tan, Xueyan Shen, Grace Loo, Jose Domingos, Dean Jerry
STARTING FROM SCRATCH: LAYING THE GENETIC GROUNDWORK FOR A NEW SELECTIVE BREEDING PROGRAM FOR MALABAR RED SNAPPER *Lutjanus malabaricus*

MARKETING AND TRADE
Thursday, December 1  16:00 - 17:40  Topaz 220
Chair: Tim Pickering

16:00 M. Lydia Adeleke, A. Deborah Akinlade
ASSESSMENT OF SEAFOOD MARKET STRUCTURE IN THE SOUTHWEST COASTLINE REGION OF NIGERIA

16:20 Thuy Pham, Sveinn Agnarsson
PUBLIC ATTITUDES TOWARDS LOW TROPHIC AQUACULTURE SPECIES PRODUCTS: A CHOICE EXPERIMENT ANALYSIS OF THE COUNTRIES BORDERING THE ATLANTIC OCEAN

16:40 Madan Dey, Prasanna Surathkal
VOLATILITY OF WHOLESALE FISH PRICES IN BANGLADESH: CONDITIONAL AUTOREGRESSIVE RANGE MODELING APPROACH

17:00 Patih Fathin Rizal
BUSINESS STRATEGY FOR TOFORD PLASTIC MANUFACTURING CORPORATION TO ENTER INDONESIAN AQUACULTURE MARKET
SELECTIVE BREEDING AND QUANTITATIVE GENETIC IMPROVEMENT
Friday, December 2  09:00 - 10:40  Topaz 220
Chair: Amrit Bart

09:00  Curtis Lind, Wagdy Mekkawy, Scott Cooper, Nigel Valentine, James Kijas, Moira Menzies, Nguyen Ngoc Qui, Nguyen Cong Can, Vo Minh Khoi, Lam Dinh, Harry King
DEVELOPMENT OF A COMMERCIAL-SCALE SELECTIVE BREEDING PROGRAM FOR VIETNAMESE STRIPED CATFISH Pangasianodon hypophthalmus

09:20  Howard Nelson Kasigwa, Nguyen Van Sang, Tran Huu Phuc
GENETIC PARAMETERS FOR GROWTH RATE IN THE FORTH GENERATION OF SELECTIVE STRIPED CATFISH Pangasianodon hypophthalmus IN VIETNAM

09:40  Juergen Geist
GENETIC GUIDELINES FOR CAPTIVE BREEDING OF ENDANGERED FRESHWATER FISHES AND MUSSELS IN AQUACULTURE FACILITIES

10:00  Masamichi Nakajima, Akinobu Tan, Wataru Teramoto, Tadahiro Sohtome
GENETIC CHARACTERISTICS OF AYU Pecoglossus altivelis CAUGHT BY DIFFERENT TWO METHODS FISHING AND CAST NET, BY MEANS OF MICROSATELLITE DNA MARKERS

10:20  Md. Rafiqul Islam Sarder, Mohammed Jahangir Alam, Mohammad Matiur Rahman, Mariom, Terrence R. Tiersch
CRYOGENIC SPERM BANKING OF INDIAN MAJOR CARP, ROHU Labeo rohita AND PRODUCTION OF QUALITY SEEDS IN COMMERCIAL HATCHERIES
EDUCATION, EXTENSION, TECHNOLOGY TRANSFER
Friday, December 2    09:00 - 10:40    Opal 105
Chair: Lee Chee Wee

09:00  Jennifer Cobcroft, Esther Fink, Joseph Uichanco, Emma Maynard, Mathieu Besson, Kyall Zenger
AQUAKULTOR: USING MOBILE GAME TECHNOLOGY TO ENHANCE TERTIARY EDUCATION IN APPLIED AQUACULTURE GENETICS

09:20  David J. Cline
AQUAPONICS AS A CROSS-CURRICULAR TOOL IN THE SECONDARY SCHOOL CLASSROOM

09:40  Farshad Shishehchian
ENTREPRENEURSHIP IN SHRIMP FARMING

10:00  Lee Chee Wee
AIC: AN EXTENSION SERVICE CENTRE FOR AQUACULTURE

10:20  Chong Fook Yen
TVET FOR TRANSFORMING AQUACULTURE – ASIAN DEVELOPMENT BANK (ADB) PROJECTS

BROODSTOCK CULTURE AND LARVICULTURE TECHNOLOGY
Friday, December 2    09:00 - 12:40    Peridot 201
Chairs: Diana Chan, Jiang Junhui

09:00  Sourabh K. Dubey, Francois Rajts, Kalpajit Gogoi, Rashmi R. Das, Saurava K. Biswal, Bibhuti B. Das, Arun Padiyar, Suresh Rajendran, Shakuntala H. Thilsted, Chadag Mohan, Ben Belton
HATCHERY-BASED MASS PRODUCTION OF MOLA Amblypharyngodon mola SEED TO SCALE NUTRITION SENSITIVE AQUACULTURE

09:20  Delphine Weissman, Ivan Gavioli
HIGH QUALITY EARLY NUTRITION AS A STRATEGY FOR A PRODUCTIVE AQUACULTURE

09:40  Henry Cuong Tran, Triet Tran Minh, Thao Truong, Anh Pham Minh, Marc Campet
ARE YOU FEEDING THE RIGHT PELLET SIZE TO YOUR FINGERLINGS?
10:00  Bich-Lien Chau, Thanh-Cam Ngo, Duc-Toan Nguyen, Van-Manh Ngo, Minh-Hoang Le
EFFECT OF TANK COLOUR ON QUALITY OF JUVENILE GOLDEN TREVALLY
Gnathanodon speciosus UNDER ELEVATED TEMPERATURE

10:20  Thanh-Cam Ngo, Bich-Lien Chau, Duc-Toan Nguyen, Minh-Hoang Le, Van-Manh Ngo
EFFECTS OF DIFFERENT DENSITY AND FEED ON LARVAL QUALITY OF
GOLDEN TREVALLY Gnathanodon speciosus DURING THE STAGE OF FEED
CONVERSION

10:40  BREAK

11:00  Thanh-Tuyen Ho, Tan-Khang Nguyen, Van-Manh Ngo, Minh-Hoang Le
EFFECTS OF FEEDING RATE AND TEMPERATURE ON LARVAL QUALITY OF
GOLDEN TREVALLY Gnathanodon speciosus

11:20  Duc-Toan Nguyen, Thanh-Cam Ngo, Bich-Lien Chau, Minh-Hoang Le, Van-Manh Nguyen, Thi-Thanh Hoang
DETERMINATION OF FEEDING ABILITY AND OXYGEN CONSUMPTION ON
LARVAE OF GOLDEN TREVALLY Gnathanodon speciosus THROUGH DIFFERENT
AGES

11:40  Gaetan Gutter, Thomas Raynaud, Navid Pormehr, Frederic Baron, Delphine Weissman
A NEW PARADIGM OF NURSERY FEEDING: CASE OF TILAPIA

12:00  Irfan Zidni, Hyo Bin Lee, Ji Hye Yoon, Jung Yeol Park, Hyun Seok Jang, Youn Su Cho, Il Young Lee, Han Kyu Lim
ANTIBIOTICS AND ANTIOXIDANTS IMPROVED SPERM QUALITY OF SPOTTED
HALIBUT Verasper variegatus DURING IN VITRO SHORT-TERM STORAGE

12:20  Qunying Xu, Woei Chang Liew, Kirby Chen, Yao Xing Wong, Janelle Ching, Yi Hang Ong, Jia Ying Lee, Yukun Yu, Manish Mahotra, Say Chye Joachim Loo
USING ENCAPSULATION TECHNOLOGY FOR FISH SPAWNING BY ORAL
HORMONE DELIVERY IN LIEU OF MANUAL INJECTION
09:00  Muinat Moninuola Bello, Aviara Ndubisi Aviara, Aremu Ademola Kabir  
THIN LAYER DRYING KINETICS OF TILAPIA Oreochromis niloticus IN CONVENTIONAL AND HYBRID SOLAR DRYERS DURING THE WET SEASON

09:20  Claude E. Boyd, Aaron McNevin  
COMPARISON OF PROTEIN PRODUCTION AND PROTEIN QUALITY AMONG TERRESTRIAL AND AQUATIC ANIMAL PROTEIN SOURCES

09:40  Chege Moses  
FROM DRIED AND SMOKED FISH TO VALUE ADDED FISH PRODUCTS; A CASE OF LAKE TURKANA, KENYA

10:00  Salina Parveen, Chengchu Liu, Olivia Gilstrap, Caleb Nindo  
PILOT SCALE ASSESSMENT OF HIGH-PRESSURE PROCESSING (HPP) FOR ENHANCING CRABMEAT MICROBIOLOGICAL QUALITY

10:20  Md Tariqul Islam, Zannatun Naeem, Sonia Khatun, Shaima Aktar, Md Amanullah, Md Yeamin Hossain  
PRODUCTION AND CONSUMERS ACCEPTABILITY OF FISH CRACKERS – AN INNOVATIVE PRODUCT FOR THE SNACKS INDUSTRY OF BANGLADESH

10:40  BREAK

11:00  Ming-Jian Wang  
DEEPCHILLING: MAXIMIZING YIELD AND FRESHNESS WITH SUBZERO COLD CHAIN

ELECTRICAL STUNNING AND MICROBIAL DIVERSITY DURING THE CONVERSION OF MUSCLE TO MEAT IN A DECAPOD CRUSTACEAN SPECIES

11:40  Caroline Douny  
DETECTION AND QUANTIFICATION OF BIOGENIC AMINES IN CAMBODIAN SMOKED FRESHWATER FISH
11:00  Yik Sung Yeong, Mimi Iryani Mat Taib, Saranya Sinnasamy, Qing Li, Tengku Sifizul Tengku Muhammad, Patrick Sorgeloos
HSP70 KNOCKDOWN IN THE BRINE SHRIMP Artemia franciscana AND THEIR TOLERANCE TO BIOTIC AND ABIOTIC CHALLENGE

11:20  Sylvia Cheung, Slade Loutet, Sin Yee Lee, Filip Van Petegem, Hamlet Abnousi
NANOBODIES PROTECT Artemia FROM THE Vibrio parahaemolyticus BINARY PIRAB TOXIN THAT IS RESPONSIBLE FOR ACUTE HEPATOPANCREATIC NECROSIS DISEASE IN SHRIMP

11:40  Tet Fatt Chia
USE OF MIIOME POSTBIOTICS MICROBIOME TECHNOLOGY IN MARINE AQUACULTURE

ECONOMICS, VALUE CHAIN AND MANAGEMENT
Friday, December 2  09:00 - 12:40  Opal 101
Chair: Alistair Douglas

09:00  Vinícius Souza Ribeiro, Manoel Xavier Pedroza Filho
GOVERNANCE STRUCTURES AND PERFORMANCE INDICATORS OF TILAPIA POLES IN BRAZIL: A GLOBAL VALUE CHAIN APPROACH

09:20  Michael Bech
THE FEASIBILITY OF LANDBASED RAS PROJECTS – HOW TO MAKE THE RIGHT CHOICES

09:40  Michelin Collyen Jimmy, Madihah Jafar Sidik, Saleem Mustafa
VALUE CHAIN ASSESSMENT OF LOKAN Geloina expansa AND CHALLENGES POSED BY COVID-19 IN SALUT, TUARAN

10:00  Katherine Hawes
COMMERCIALISING YOUR POND: DON'T GET CAUGHT BY LEGAL DISRUPTORS IN YOUR BUSINESS!

10:20  Madan Dey, Prasanna Surathkal
BRAND-LEVEL STRATEGIC PRICE RESPONSE IN THE U.S. CANNED TUNA MARKET
09:00 Razif Harun, Farahin Abd Wahab, Natrah Ikhsan, Fatimah Md Yusoff, Tatsuki Toda
MICROALGAE PRODUCTION FOR BIOMASS AND HIGH-VALUE PRODUCTS

09:20 Abd Wahab Farahin, Razif Harun, Divyashini Mohan, Abdulrahman Ahmed Qanaan, Quin Emparan, Yoshiki Takayama, Masahiro Otake, Natrah Ikhsan, Fatimah Md Yusoff, Tatsuki Toda
PRELIMINARY STUDY: PRODUCTIVITY OF Isochrysis galbana IN AN OUTDOOR SCALE-UP MULTIPLE BAGS REACTOR SYSTEM

09:40 Umi Wahidah Ahmad Dini, Fatimah Md. Yusoff, Zetty Norhana Balia Yusof, Norulhuda Mohamed Ramli
REPRODUCTIVE CAPACITY AND POPULATION GROWTH OF CLADOCERAN ZOOPLANKTON Moina micrura FED WITH DIFFERENT MICROALGAE DIETS

10:00 Quin Emparan, Razif Harun, Rozita Omar, Dayang Radiah Awang Biak, Aida Isma Mohd Idris
POTENTIAL AND APPLICATION OF PHYCOREMEDIATION TECHNOLOGY USING Chlorella vulgaris FOR PALM OIL MILL EFFLUENT (POME) TREATMENT: AN EXPERIMENTAL STUDY

10:20 Natrah Ikhsan, Sarmila Muthukrishnan, Norfarrah Mohamed Alipiah, Md Yasin Ina-Salwany, Chong Chou Min, Low Chen Fei, Norhariani Mohd Nor
ANTIMICROBIAL RESISTANCE IN AQUACULTURE AND ITS MITIGATION STRATEGIES

10:40 Ina Salwany Md Yasin, Haifa-Haryani Wan Omar, Mohd Zamri Saad, Mohammad Noor Amal Azmai, Natrah Ikhsan
OCURRENCE, ANTIMICROBIAL RESISTANCE AND VIRULENCE FACTORS OF Vibrio SPECIES ISOLATED FROM CULTURED SHRIMP IN PENINSULAR MALAYSIA
09:00  Wa Iba, Andi Septiana, Sendry Yosalina, Iis Daniar  
GROWTH, LIPID AND BETA-CAROTENE CONTENT OF *Dunaliella salina* (Dunal) Teodoresco CULTURED IN ACADIAN MARINE PLANT EXTRACT POWDER (AMPEP) MEDIA

09:20  Sitti Raehanah Muhamad Shaleh, Wan Arina Azrinor Yamin, Noor Adzlina Abidin, Fui Fui Ching, Rafidah Othman  
FEEDING AND DIET PREPARATION FOR LARVAE AND JUVENILE SEA CUCUMBER *Holothuria scabra*

09:40  Mary Joy Libatique, Meng-Chou Lee, Han-Yang Yeh, Fu-Jie Jhang  
THE EFFECTS OF ENVIRONMENTAL FACTORS ON TOTAL ARSENIC BIOSORPTION IN *Sarcodia suiae*

10:00  Wahidatul Husna Zuldin, Nur Azeera Aming, Siti Nurnilam Sari Nadiah Nain  
PRODUCTION OF DRIED SEAWEED SHEET USING EDIBLE GREEN MACROALGAE, *Caulerpa macrodisca* (DECAISNE) AND *Caulerpa lentillifera* (J. AGARDH) (BRYOPSIDALES, CHLOROPHYTA)

10:40  BREAK

11:00  Chiu-Hui Kuo, Ping-Ru Hsiao, Pao-Chi Liao, Chun-Hung Liu, Ming-Chang Hong, Kuohsun Chiu  
UNTARGETED FOODOMICS APPROACH TO PROFILE BIOACTIVE COMPOUNDS FROM CULTURED *Sarcodia suae* USING LIQUID CHROMATOGRAPHY-HIGH RESOLUTION MASS SPECTROMETRY

11:20  Cheryl Marie Cordeiro, Jaap van Hal  
INNOVATION IN PHYCOGASTRONOMY: REDISCOVERING SEAWEED IN THE NEW NORDIC CUISINE

11:40  Cláudia Afonso, Carlos Cardoso, Raquel Quintã, Pedro Pousão-Ferreira, Narcisa Mestre Bandarra  
RISK-BENEFIT OVERVIEW ASSOCIATED TO THE CONSUMPTION OF SEAWEEDS TAKING INTO ACCOUNT BIOACCESSIBILITY, CASE STUDIES

12:00  Bailey Moritz  
SCALING KELP FARMING AS A NATURE-BASED SOLUTION: CONSERVATION ORGANIZATIONS ROLE IN INDUSTRY ADVANCEMENT AND ADDRESSING RISK
12:20  S.M. Rafiquzzaman, Alima Tuly  
EVALUATION OF REUTILIZATION POTENTIALITIES OF *Gracilaria tenuistipitata*  
AFTER AGAR EXTRACTION AS A SOURCE OF PHYTOCHEMICALS AND ANTIOXIDANTS

**SOCIO-ECONOMICS, WELFARE, POVERTY ALLEVIATION, AND FOOD SECURITY**  
Friday, December 2  09:00 - 15:40  Peridot 202  
Chair: Jamie Whitford

09:00  Phoebe Racine, Ashley Bae, Steven Gaines, Elliott Matthews, Karly Miller, Mike Weir, Matto Mildenberger  
CALIFORNIA SEAFOOD CONSUMPTION Shifts DURING THE COVID-19 PANDEMIC

09:20  N.K. Sonanla, T. Umamaheshwari  
SOCIO ECONOMIC PROFILE AND CONSTRAINTS FACED BY THE FRESHWATER FISH CULTURE IN MANIPUR, NORTHEAST INDIA

09:40  Ramjie Odin, Mario Corado  
INTRODUCTION OF TILAPIA AQUACULTURE IN LAKE LANAO: AN IMMEDIATE LIVELIHOOD SUPPORT TO VICTIMS OF MARAWI SEIGE IN LANAO DEL SUR, PHILIPPINES

10:00  Swagat Ghosh  
SOCIAL, ECONOMIC, AND PRODUCTION CHARACTERISTICS OF AQUACULTURE FOR THE FRESHWATER WETLANDERS OF WEST BENGAL, INDIA

10:40  BREAK

11:00  Dorian Dejace, Kabir K. Ahmed, Rotha Chork, Piraner Samoth, Nicolas Jouanard, Domenico Caruso, Jean-Michel Mortillaro, Marc Oswald  
AN APPROACH FOR IMPROVEMENT OF SMALLHOLDER FISH FARMING SYSTEMS IN SIEM REAP PROVINCE (CAMBODIA)

11:20  Joshua Babatunde Ogunreemi, Flourizel Igbani, Dauda K. Abdullahi, Catherine Y. Shetur  
SOCIO-ECONOMIC CHARACTERISTICS OF FISH FARMERS AND AQUACULTURE DEVELOPMENT PRACTICES IN IBII LOCAL GOVERNMENT AREA OF TARABA STATE, NIGERIA
11:40  **Nafisat Nasir**, Usman Haruna, Nasir Ma’aruf Ahmed  
ANALYSIS OF FOOD SECURITY STATUS OF FISH MARKETERS AND THE PROFITABILITY OF FISH PROCESSING AND MARKETING IN HADEJIA FISH MARKETS, JIGAWA STATE NIGERIA

12:00  **Naima G. Pendi**, Esmael L. Abas, Husna T. Lumapenet  
SOCIO-ECONOMIC STATUS OF FISHING COMMUNITIES IN BANGSAMORO

12:20  **Binay Kumar Chakraborty**  
AQUACULTURE AND FISHERIES MANAGEMENT STATUS, AND IMPACT OF COVID 19 ON AQUACULTURE AND FISHERIES IN BANGLADESH

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**BIVALVES**  
Friday, December 2  09:00 - 15:40  Garnet 218  
Chair: Leila Basti

09:00  **Mohaddeseh Ahmadnezhad**, Homayoun Hosseinzadeh Sahafi, Mohammad Sayad Bourani, Sohrab Dajandiyan, Hossein Khara  
REPRODUCTIVE FEATURES OF NATIVE SPECIES MUSSEL *Anodonta cygnea* IN ANZALI WETLAND IN IRAN

09:20  **Wenjie Wu**, Carolyn Lundquist, Andrew Jeffs  
TRACKING THE SOURCE OF *Perna canaliculus* MUSSEL SPAT FOR AQUACULTURE USING SHELL MICROCHEMISTRY

09:40  **Jesse Ronquillo**, Audrie-Jo McConckey  
IMPROVED SEEDSTOCK PRODUCTION OF QUAHOG *Mercenaria mercenaria* AND AMERICAN OYSTER *Crassostrea virginica* FOR REMOTE SETTING

10:00  **Supono**, Andrew Jeffs  
ROLE OF NUTRITIONAL HISTORY ON THE SUBSEQUENT RETENTION OF GREEN-LIPPED MUSSEL *Perna canaliculus* SEED ON COASTAL MUSSEL FARMS

10:20  **Wahyudin**, Tamiji Yamamoto  
OYSTER PRODUCTIONS UNDER OLIGOTROPHIC IN HIROSHIMA BAY, JAPAN; RESULT OF PREY-PREDATOR NUMERICAL MODEL

10:40  **BREAK**

11:00  **Sophie Gordon**, Max Wingfield, Tu’ikolongahau Halafihi, Siola’a Malimali, David Schoeman, Paul Southgate  
MABÉ PEARL CULTURE IN THE KINGDOM OF TONGA: OPPORTUNITIES, INNOVATION AND OUTLOOK
11:20 Leila Basti
DECADAL IMPACTS OF HARMFUL ALGAL BLOOMS ON BIVALVE AQUACULTURE IN THE ASIA PACIFIC REGION

11:40 Salina Parveen, Esam Almuhaideb, John Bowers, Tahirah Johnson, Gary Richards
VIBRIOS IN FARMED OYSTERS Crassostrea virginica IN RELATION TO SEASON AND DIFFERENT FARMS ACROSS THE CHESAPEAKE AND MARYLAND COASTAL BAYS, USA

12:00 Nurzafirah Mazlan, Naveen Kumar Naidu, Nor Ashikin Sopian, Safaa Najah Saud, Muhammad Shirwan Abdullah Sani, Muhammad Nor Afdall Nazahuddin
MICROPLASTICS ISOLATED FROM BLOOD CLAMS Andara granosa AT A LOCAL MARKET IN SELANGOR, MALAYSIA

12:20 Sang Van Vu, Giang Truong Cao, Ngoc Thi Hong Nguyen, Thi Kim Anh Tran, In Van Vu, Wayne O’Connor, Sarah Ugalde
BLUE ECONOMY: VALUING CARBON POTENTIAL IN OYSTER AQUACULTURE

TILAPIA
Friday, December 2  09:00 - 17:40  Garnet 216
Chairs: Menaga Meenakshisundaram, Gen Hua Yue, Leonardo Cericato

Sponsor: MSD
Animal Health

09:00 Josias Seabi
FEEDING AND GROWTH OF TILAPIA KURPER IN RELATION TO ITS AQUACULTURE POTENTIAL

09:20 Eakapol Wangkahart, Brecht Bruneel, Ludo Segers, Anut Chantiratikul
COMPARATIVE EFFECT OF ORGANIC AND INORGANIC SELENIUM SUPPLEMENTATION ON GROWTH PERFORMANCE, HEMATOLOGICAL VALUE AND IMMUNE STATUS IN NILE TILAPIA Oreochromis niloticus

09:40 Matthijs de Jong, Arno Van der Aa, Brecht Bruneel, Anupong Santisukwongchote
ON-FARM EVALUATION ON THE USAGE OF A NUTRITIONAL EMULSIFIER ON THE GROWTH PERFORMANCE AND FEED EFFICIENCY IN NILE TILAPIA Oreochromis niloticus

10:00 Jonabel Huavas, Jasmine Heyse, Jérôme Delamare-Deboutteville, Ruben Props, Colin Shelley
MICROBIOMES OF TILAPIA AQUACULTURE: MICROBES IN THE SPOTLIGHT
10:40 BREAK

11:00 Ralf Onken, Murilo Henrique Quintiliano
DEFINING AND IMPLEMENTING A TILAPIA WELFARE ASSESSMENT PROTOCOL IN ASIA

11:20 Carolyn Chinguo, J.S. Valeta, D. Kassam
GROWTH AND SURVIVAL RATE OF PORTABLE HATCHERY AND EARTHEN POND BRED FRY AND FINGERLINGS OF Oreochromis karongae IN EARTHEN PONDS AND TANKS

11:40 Farhad Rajabipour, Nassrin Mashaii
EVALUATION OF THE PRODUCTION EFFICIENCY OF BLACK TILAPIA Oreochromis niloticus AND RED HYBRID TILAPIA Oreochromis sp. FRIES IN TWO NURSING SYSTEMS

12:40 LUNCH

14:00 Scott Tilton, Julia Green, John Hagios, Callum McAree, Sidra Nazeer
USE OF NOVEL HIGH PROTEIN DISTILLERS FEED PRODUCTS, ANDVANTAGE 40Y AND ANDVANTAGE 50Y, IN PRACTICAL DIETS FOR TILAPIA Oreochromis niloticus

BENCHMARKING TILAPIA AQUACULTURE SYSTEMS IN EGYPT: SYNERGIES, TRADE-OFFS, AND ENTRY POINTS FOR SUSTAINABLE DEVELOPMENT

14:40 Carlos Leal, Kelly S. Sa, Gabriel R.R. Balloute, Nadege Richard, Otavio S. Castro
YEAST BETA-GLUCAN CONCENTRATE (SAFGLUCAN®) REDUCES TIME FOR VACCINE PROTECTIVE RESPONSE AND INCREASES SURVIVAL OF NILE TILAPIA Oreochromis niloticus CHALLENGED WITH Streptococcus agalactiae
SHRIMP DISEASES AND HEALTH MANAGEMENT
Friday, December 2  09:00 - 17:40  Garnet 212
Chairs: Ruth Garcia Gomez, Padmanabhan Saravanan,
Wolfgang Koppe, Martha Mamora, Rodrigo Belmonte

Sponsor: MSD
Animal Health

09:00  Wanilada Rungrassamee, Pacharaporn Angthong, Tanaporn Uengwetwanit,
Umaporn Uawisetwathana, Sureerat Tang, Nitsara Karoonuthaisiri,
Sage Chaiyapeccha, Premruethai Supungul
THE MICROBIOTA OF WILD AND FARMED *Penaeus monodon* HOW THE HOST
IMMUNITY PLAYS ROLES IN GUT MICROBIAL ASSEMBLY

09:20  Loc Tran, Nguyen Tran, Thanh Le
IDENTIFICATION, CHARACTERIZATION, DEVELOPMENT OF INFECTION
MODELS FOR MUSCLE NECROSIS DISEASE CAUSED BY *Vibrio* spp. ON
WHITELEG SHRIMP *Penaeus vannamei* IN VIETNAM

09:40  Adriana Artiles, Melissa Allen, Jason Stannard, Richard Towner, Klara Verbyla,
Jorge Cordoba, Joao Rocha, John Buchanan
MICROBIOLOGICAL DIVERSITY AND COMPOSITION OF WATER AND
SEDIMENTS IN THREE FARMS FROM ECUADOR

10:00  Thomas Ackery, Phoebe Arbon, Kelly Condon, Ellen Ariel, Dean Jerry,
Roger Huerliman
ASSESSING THE PREVALENCE AND LOAD OF PRAWN PATHOGENS IN THE
NORTHERN AUSTRALIAN PRAWN INDUSTRY

10:20  Loc Tran, Phuc Hoang, Yin Thant, Khin Khit, Saw Yadanar
DEVELOPING LABORATORY INFECTION MODEL FOR WHITE FECES DISEASE
IN WHITELEG SHRIMP *Penaeus vannamei*

10:40  BREAK

11:00  Mohamad Fadjar, Nafa Aulia Ramadani, Ivana Agustin, Jefri Anjaini,
Laksono Radityo Suwandhi
DIGESTIVE ENZYME ACTIVITY AND HISTOPATHOLOGY OF WHITE SHRIMP
*Litopenaeus vannamei* ORGAN INFECTED BY WHITE FECES SYNDROME (WFS)
TREATED WITH SQUID *Loligo* sp. INK EXTRACT IN DIFFERENT MEDIA SALINITY
11:20 Stephane Frouel, Jule Castier, Thomas Pierrot, Maxime Hugonin
PRELIMINARY RESPONSE OF A NEW FEED SOLUTION TO IMPROVE
RESISTANCE OF WHITE SHRIMP *Penaeus vannamei* POST LARVAE AGAINST
*Enterocytozoon hepatopenaei* (EHP) DISEASE

11:40 Hector Gonzalez Ocampo, Valdez-Chavez Karime Anahi, Fierro-Coronado Arturo
EFFECT OF MEDICINAL PLANTS, YEAST AND *Bacillus licheniformis* ON THE
GROWTH, SURVIVAL, IMMUNE RESPONSE AND DIGESTION OF SHRIMP
*Penaeus vannamei* CHALLENGED WITH *Vibrio parahaemolyticus*

12:40 LUNCH

14:00 Menaga Meenakshisundaram
RELATIVE PERFORMANCE OF BIOFLOC BASED PROBIOTIC ISOLATES WITH A
COMMERCIAL PROBIOTICS IN *Penaeus vannamei*

14:20 Astrid Gärdes, Yustian Rovi Alfiansah
SHRIMP PRODUCTION IN EUROPE AND DIVERSITY OF POTENTIAL
PATHOGENIC BACTERIA IN DIGESTIVE TRACTS OF SHRIMP

14:40 Sarmila Muthukrishnan, Ikhsan Natrah, Mohamed Shariff Mohamed Din,
Ina Salwany Md Yassin, Fatimah Md Yusoff
*IN VITRO AND IN VIVO EXPRESSION OF VIRULENCE GENES IN ACUTE
HEPATOPANCREATIC NECROSIS DISEASE (AHPND) CAUSING STRAINS IN
RELATION TO THEIR VIRULENCE TOWARDS Penaeus vannamei* (BOONE, 1031)

**FEEDSTUFFS AND FEED ADDITIVES**
Friday, December 2  09:00 - 17:40  Garnet 214
Chairs: Ronnie Tan, Eric Charles Peterson, Christian Hermansen

09:00 Ingrid Lupatsch, Sophie Hiscocks, Gilson Gomes, David Terrey, Ivan Tankovski,
Jack James, Michael Bedford
EFFECT OF DIETARY PHYTASE AND INOSITOL ON PERFORMANCE AND
TISSUE INOSITOL IN TILAPIA *Oreochromis niloticus* FED LOW FISHMEAL DIETS

09:20 Katarina Doughty, Jan Hemmi, Julian Partridge, Luke Wheat, Craig Lawrence
MODIFYING BLACK SOLDIER FLY LARVAE *Hermetia illucens* TO BE USED AS A
DIETARY INCLUSION FOR AQUACULTURE

09:40 Tibiabin Benitez-Santana, Kasun Tharaka, Buddhi E. Gunathilaka, Min-Gi Kim,
Chorong Lee, Jaehyeong Shin, Kyeong-Jun Lee
EVALUATION OF ANTARCTIC KRILL *Euphausia superba* MEAL
SUPPLEMENTATION IN DIETS FOR OLIVE FLOUNDER *Paralichthysolivaceus*
10:00  Luis Conceicao, Ana Teresa Gonçalves, Wilson Pinto, Sara Castanho, Ana Mendes, Diogo Peixoto, Mariana Hinzmann, Rita Colen, Maria Morais, Cátia Marques, Joana Silva, João Navalho, Helena Abreu, Pedro Pousão, Jorge Dias, Sofia Engrola, Benjamin Costas
FUNCTIONAL FEEDS FOR SENEGALESE SOLE POST-LARVAE

10:20  Barbara Rossi, Jorge Dias, Andrea Piva, Ester Grilli
DOSE - RESPONSE EFFECT OF A BLEND OF ORGANIC ACIDS AND NATURE-IDENTICAL COMPOUNDS ON EUROPEAN SEABASS *Dicentrarchus labrax* L.

10:40  BREAK

11:00  Sutep Luengyotluechakul, Orapint Jintasataporn, Srinoy Chumkam, Lalipat Prompol
COMPARATIVE EFFICACY OF DIFFERENT MANGANESE SOURCE FOR GROWTH PERFORMANCE OF ASIAN SEABASS *Lates calcarifer*

PILOT TESTS ON INCORPORATING THE FILAMENTOUS GREEN ALGAE, *Rhizoclonium riparium* IN THE DIET OF THE NILE TILAPIA AT PANGASINAN STATE UNIVERSITY, PHILIPPINES

11:40  Sutep Luengyotluechakul, Suveena Auepaiboon, Orapin Jintasataporn, Srinoy Chumkam
EFFECT OF ZINC-L-SELENOMETHIONINE AND CHROMIUM-L-METHIONINE ON GROWTH PERFORMANCE, BLOOD GLUCOSE AND DIGESTIVE TRACT PH IN RED TILAPIA *Oreochromis* spp.

12:00  François Jegou
EARLY CARING OF FISH DRIVES GROWTH PERFORMANCE

12:40  LUNCH

14:00  Noor Khan, Tahreem Iqbal, Murat Arslan
EFFECT OF INCREASING CONCENTRATIONS OF OMEGA 3- FATTY ACIDS BY SUPPLEMENTATION OF VEGETABLE OIL AND FISH OIL ON THE PERFORMANCE AND FATTY ACID PROFILE OF GENETICALLY MALE TILAPIA (GMT)

14:20  Sofia Engrola, Maria João Xavier, Carolina Castro, Wilson Pinto, Renata Serradeiro, Luis E.C. Conceição
DIETARY ANTIOXIDANT SUPPLEMENTATION IN FLATFISHES: A COMPARATIVE STUDY
14:40  Van Pham Thi Ha To, David Dzisiak, John Brennan, André Dumas
NUTRITIONAL EVALUATION OF AN AQUEOUS-PROCESSED CANOLA IN DIETS
OF POST-SMOLT ATLANTIC SALMON *Salmo salar*

15:00  Martin Guerin, Waldo Nuez-Ortin, Martha Mamora, Dedi Jusadi
SUPPLEMENTATION OF LYSO-PHOSPHOLIPID-BASED FEED ADDITIVE
MAINTAINS GROWTH PERFORMANCE OF PANGASIUS FISH *Pangasianodon*
*hypophthalmus* UNDER DIETARY OIL REDUCTION STRATEGY

15:20  Vivi Endar Herawati, Johannes Hutabarat, Pinandoyo, Y.S. Darmanto,
Nurmanita Rismaningsih, Ocky Karna Radjasa
EFFECT OF UTILIZATION OF FRESH, FROZEN, AND PRESERVED *Daphnia*
*magna* MASS CULTURED USING FERMENTED ORGANIC WASTES ON GROWTH
AND NUTRITIONAL QUALITY OF TILAPIA *Oreochromis niloticus* LARVAE

15:40  BREAK

16:00  Eric Charles Peterson, Rowanne Siao, Gi Gi Chua, Coleen Toledo, Megan Teo,
Naazneen Sofeo, Aaron Thong, Christian Hermansen
MICROBIAL AQUAFEED PRODUCTION WITH OLEAGINOUS WASTES
CULTIVATED ON WASTE LIPIDS

16:20  Christian Hermansen, Aaron Thong, Ashriel Yong, Coleen Toledo, Megan Teo,
Gi Gi Chua, Rowanne Siao, Jerome Yeo Sam Roy, Nathaniel Phua,
Eric Charles Peterson
BLACK SOLDIER FLY PRODUCTION FROM LIGNOCELLULOSIC SIDESTREAMS
VIA MICROBIAL BIOCONVERSION

**AIC PARTNER TECHNOLOGY**
Friday, December 2  11:00 - 12:40  Opal 105
Chair: Lee Chee Wee

11:00  Sree Bhaskaran
IOT SOLUTION FOR AQUACULTURE WATER AND FEED MANAGEMENT

11:20  Zhan Kun Fung
DEVELOPMENT OF ANTIFOULING COATING FOR AQUACULTURE CAGE NETS

11:40  KB Haw
MANGROZYME™ AQUACULTURE SOLUTIONS FOR INVERTEBRATE AND
VERTEBRATE DISEASE TREATMENT

12:00  Saravanan Saravanan
LOW VOLTAGE ELECTROSTATIC FIELD (LVEF) FOR GROWTH PERFORMANCE
OF PACIFIC WHITE SHRIMPS

12:20  Chia Kim Seah
VIBRIOUT™ MICROBIAL FEED ADDITIVE FOR SHRIMP AND FINFISH
GENOMICS, TRANSCRIPTOMICS AND TRANSGENIC TECHNOLOGY
Friday, December 2    14:00 - 15:40    Topaz 220
Chair: Lin Qingsong

14:00  Haiying Liang, Junjun He, Jiaping Zhu, Xiaochen Fang
SEPARATION, IDENTIFICATION AND GENE EXPRESSION ANALYSIS OF PMAMP-1 FROM *Pinctada fucata martensii*

14:20  Md. Samsul Alam, Daniel G. Peterson, Mark A. Arick II, Chuan-Yu Hsu, Adam Thrash, Emma Ruth Miller, Attila Karsi, Mark Lawrence, John Benzie, Matthew Hamilton, Md. Akhtaruzzaman Khan
WHOLE GENOME SEQUENCING AND DEVELOPMENT OF SNP MARKERS FOR ROHU CARP *Labeo rohita* (HAMILTON)

14:40  John Buchanan, Takeshi Umazume, Alan Tinch, Xavier Lauth
GENOME EDITING TO PRODUCE MONOSEX AND STERILE FISH FOR AQUACULTURE

15:00  Kae Hwan Sim, Sri Harminda Hartantyo, Jiaying Ho, Vijitha Manogaran, Jia Qi Lim, Angela Li, Kern Rei Ching
A METAGENOMICS WORKFLOW FOR RAPID DETECTION AND CHARACTERIZATION OF *Group B Streptococcus* IN FISH

15:20  James Kijas, Sean McWilliam, Dan Richards, Bob Richards, Wagdy Mekkawy, Curtis Lind, Moira Menzies
GENOME SEQUENCING OF BARRAMUNDI (ASIAN SEABASS *Lates calcarifer*) FOR DEVELOPMENT AND VALIDATION OF A SNP GENOTYPING TOOL

TRACEABILITY – BIOSECURITY AND FOOD SAFETY
Friday, December 2    14:00 - 17:40    Opal 101
Chairs: Debashish Mazumder, Chew Fook Tim

14:00  Ruben Props, Frederiek-Maarten Kerckhof, Jasmine Heyse, Peter Rubbens, Marc Indigne, Nico Boon
MICROBIOME HEALTH ASSESSMENTS VIA SINGLE-CELL FINGERPRINTING

14:20  Debashish Mazumder, Jesmond Sammut, Patricia Gadd, Karthik Gopi, Jasmin Martino, Jagoda Crawford, Carol Tadros, Neil Saintilan
NOVEL PROVENANCE TECHNOLOGY TO COMBAT FRAUD IN THE SUPPLY CHAIN
14:40  **Stanley Serfling**  
SEAOOD HACCP INSPECTION PROCESS BY THE UNITED STATES FOOD AND DRUG ADMINISTRATION

15:00  **Guillaume Drillet**, Claudio Gianoli, Li Gang, Aristea Zacharopoulou, Gerd Schneider, Peter Stehouwer, Robert Goldring, Vladimiro Bonamin, Lisa Drake  
IMPACTS OF THE MANDATORY COMMISSIONING TESTING OF BALLAST WATER TREATMENT SYSTEMS ON THE RISK MANAGEMENT OF PATHOGENS TRANSFER ACROSS AQUATIC ECOSYSTEMS

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**PROBIOTICS, PREBIOTICS, SYNBIOITICS**  
Friday, December 2  14:00 - 17:40  Peridot 206  
Chair: Murni Marlina Abdul Karim  
Sponsor: BLUE AQUA

**14:00**  
**Murni Karim**, Fatimah Md Yusoff, Fadhil Syukri, Puvaneswari Puvanasundram, Sow Cyn Shieng, Danial Iman  
POTENTIAL PROBIOTIC *Bacillus amyloliquefaciens* AS A BENEFICIAL MEDIATOR FOR CONTINUOUS SUSTAINABILITY IN AQUACULTURE

**14:20**  
**Wenrui Li**, Chiun Hao Lim, Yulan Wang, Patricia Lynne Conway, Say Chye Joachim Loo  
*IN VITRO* PROFILING OF POTENTIAL FISH PROBIOTICS *Enterococcus hirae* spp. ISOLATED FROM JADE PERCH *Scortum barcoo* AND SAFETY PROPERTIES ASSESSED USING WHOLE GENOME SEQUENCING

**14:40**  
**Ngoc Diem Nguyen**, Jutta Kesselring, Peter Bossier  
*Bacillus subtilis* DSM33018 MODULATES SURVIVAL, PATHOGEN ATTACHMENT ABILITY AND IMMUNE GENE EXPRESSION OF *Vibrio* INFECTED *Artemia*

**15:00**  
**Md Javed Foysal**, Ravi Fotedar, Chin-Yen Tay  
*Lactobacillus* spp. AS AN EFFECTIVE PROBIOTICS FOR MARRON *Cherax cainii* AQUACULTURE

**15:20**  
**Mehdi Soltani**, Koushik Ghosh, Vikash Kumare, Alan Lymbery, Einar Ringø  
APPLICATION OF PROBIOTIC *BACILLUS* IN AQUACULTURE

**15:40**  
BREAK

**16:00**  
**Simon Baumgartner**, Jack James, Amy Ellison  
*Bacillus indicus* AND *Bacillus subtilis* AS AN ALTERNATIVE HEALTH SUPPLEMENT TO ASTAXANTHIN
16:20  Alban Caratis, Nadege Richard, Tom Hashman, Alberto J.P. Nunes, Rodrigo Maggioni, Otavio S. Castro
MULTI-STRAIN Bacillus spp. FEED PROBIOTIC (MICROSAF®) IMPROVES SURVIVAL, HEALTH STATUS AND ECONOMIC RESULTS OF THE WHITELEG SHRIMP L. vannamei REARED UNDER SUPERINTENSIVE CONDITIONS

16:40  Farshad Shishehchian
DEFINING PROBIOTIC PERFORMANCE IN AQUACULTURE: DATA ANALYSIS AND SYNERGY WITH THE FARMING SYSTEM

IMMUNOLOGY, VACCINE AND THERAPEUTICS
Friday, December 2 14:00 - 17:40  Peridot 201
Chair: Ina Salwany Mohd Yasin

14:00  Manuel Sardinha, Gabriella Pereira, Bruno Reis, Luis E.C. Conceição, Benjamin Costas, Jorge Dias
DOES MICROALGAE-DERIVED B-GLUCAN ALTER FISH SYSTEMIC IMMUNE RESPONSES?

14:20  K.P. Madushani, K.A.S.N Shanaka, Jehee Lee
UNDERSTANDING THE EXPRESSION PATTERN OF VIPERIN IN RED-LIP MULLET Liza haematocheila UNDER DISTINCT IMMUNE STIMULI

14:40  Md. Shirajum Monir, Ina-Salwany Md. Yasin, Md. Sabri bin Mohd Yusoff, Zarirah binti Mohamed Zulperi, Hasliza binit Abu Hassim
ASSESSMENT OF FEED BASED BIVALENT VACCINE AGAINST STREPTOCOCCOSIS AND MOTILE AEROMONAD SEPTICEMIA IN HYBRID RED TILAPIA Oreochromis spp.

15:00  Mehdi Soltani, Hien Van Doan, Pezhman Hosseini-Shekarabi, Einar Ringø
PHYTOTHERAPY OF FISH STREPTOCOCCOSIS

15:20  Anh Tuan Vu, Maria Garcia Suarez
EFFECT OF EXTRACTS FROM SEAWEEDS, Ulva spp. AND Solieria chordalis, ON IMMUNE RESPONSE AND SUSCEPTIBILITY TO Streptococcus agalactiae IN RED TILAPIA Oreochromis sp.

15:40  Thomas Grimm, Roshan Shrestha
EFFECTS OF MICROALGAE FEED-BASED IMMUNOMODULATORS ON GROWTH, HEALTH AND IMMUNE RESPONSE IN PACIFIC WHITE SHRIMP Litopenaeus vannamei
**BIOFLOC**
Friday, December 2  14:00 - 17:40  Peridot 204
Chairs: Salin Krishna, Lim Meng Huat

14:00  **Felix Sugantham**, S. Srividya, M. Charulatha, C. Mohanasundari, M. Menaga
ALGAL-BACTERIAL INTERACTIONS IN RED TILAPIA CULTURE UNDER BIOFLOC TECHNOLOGY

14:20  **Menaga Meenakshisundaram**, C. Mohanasundari, S. Felix, M. Charulatha, S. Srividya
EXTRACTION OF ORGANIC ACIDS FROM BIOFLOC AND ITS APPLICATION IN *Penaeus vannamei*

14:40  **Felix Sugantham**, M. Menaga, M. Charulatha, C. Mohanasundari, S. Srividya
PROBIOTIC POTENTIAL OF BIOFLOC: A COMPARATIVE STUDY ON THE GROWTH PERFORMANCE OF *Penaeus vannamei*

15:00  **Akeem Babatunde Dauda**
DIFFERENT CARBON SOURCES AFFECT MORPHOLOGY AND PLANKTONIC COMPOSITION OF BIOFLOCS

15:20  **Menaga Meenakshisundaram**
MICRODYNAMICS OF *EX SITU* BIOFLOC USING DISTILLERY SPENTWASH AS CARBON SOURCE

15:40  **BREAK**

16:00  **S.M. Nurul Amin**, Md Eilious Hosain, Aziz Arshad, Md Salleh Kamarudin, Murni Marlina Abd Karim
EFFECT OF DIFFERENT BIOFLOC VOLUME ON GROWTH AND SURVIVAL OF *Macrobrachium rosenbergii* POST LARVAE

EFFECTS OF DIFFERENT CARBON SOURCES AND CARBON NITROGEN RATIOS ON GROWTH, SURVIVAL AND PROXIMATE COMPOSITION OF *Macrobrachium rosenbergii* POST LARVAE IN BIOFLOC SYSTEM

16:40  **Menaga Meenakshisundaram**, S. Felix, M. Charulatha, C. Mohanasundari
PIGMENTATION OF THE BACTERIA ISOLATED FROM BIOFLOC PONDS AND ITS COLOUR ENHANCEMENT EFFECT IN *Xiphophorus hellerii*

17:00  **Farshad Shishehchian**
DEFINING PROBIOTIC PERFORMANCE IN AQUACULTURE: DATA ANALYSIS AND SYNERGY WITH THE FARMING SYSTEM
14:00  **Saroj Kumar Swain**  
SUSTAINABLE AQUACULTURE DEVELOPMENT FOR ENSURING THE NUTRITIONAL SECURITY IN INDIA

14:20  **Matthew Slater**, Philip James  
AQUAVITAE: NEW SPECIES, PROCESSES AND PRODUCTS CONTRIBUTING TO INCREASED PRODUCTION AND IMPROVED SUSTAINABILITY IN EMERGING LOW TROPHIC, AND EXISTING LOW AND HIGH TROPHIC AQUACULTURE VALUE CHAINS IN THE ATLANTIC; H2020 BG-08-2019 [Part C]

14:40  **Vivian Cavan**, Abel Yeo, Nicholas Yap  
AN OVERVIEW OF *Mastigias papua*: LIFE CYCLE, REARING PARAMETERS, NUTRIENT FEEDING, AND IDEAL MORPHOLOGICAL TRAITS IN S.E.A. AQUARIUM SINGAPORE

15:00  **Ezequiel Santillan**, Fanny Yasumaru, Ramanujam Srinivasan Vethathirri, Sara Swa Thi, Hui Yi Hoon, Diana Chan Pek Sian, Stefan Wuertz  
MICROBIAL COMMUNITY-BASED PROTEIN FROM SOYBEAN-PROCESSING WASTEWATER AS VALUE-ADDED ALTERNATIVE FISH FEED INGREDIENT FOR SUPPORTING ASIAN SEABASS *Lates calcarifer* GROWTH PERFORMANCE

15:20  **Cristiano Rossignoli**, Chinedu Obi, Syed Aman Ali  
EXPLORING THE POTENTIAL AND CONSTRAINTS OF SMALL HOLDER AQUACULTURE IN MARGINALIZED SALINE AREAS IN PAKISTAN

15:40  BREAK

16:00  **Rey dela Calzada**, Barry Leonard Tumbokon, Augusto Serrano Jr.  
EFFECTS OF VINEGARS ON THE GROWTH PERFORMANCE OF BLACK TIGER SHRIMP *Penaeus monodon*

16:20  **Richard Le Boucher**  
IS SINGAPORE THE CENTER OF WORLD AQUACULTURE?