



**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

**HATCHERY MANAGEMENT**

Wednesday, November 30 11:20 - 13:00 Peridot 202

Chairs: Jennifer Cobcroft, Chris Stock

Sponsor:   
nutrition through innovation

- 11:20 Thumronk Amornsakun**, Sajeenuth Srithongthum, Sarawuth Chesoh, Sitthisak Jantararat, 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-Guillén**, 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

WEDNESDAY

- 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

- 11:20** **Kazi Ahmed Kabir**, M.C.J. Verdegem, J.A.J. Verreth, M.J. Phillips, J.W. Schrama  
DIETARY NON-STARCH POLYSACCHARIDES INFLUENCED NATURAL FOOD WEB AND FISH PRODUCTION IN SEMI-INTENSIVE POND CULTURE OF NILE TILAPIA
- 11:40** **Adel Hosseinjani**, 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 Goroochi, 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?

## 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 Schrittwieser, Joep K. Staarman, Saengchan Senapin, Ha Thanh Dong, Shannon Clarke, Rudiger Brauning, 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

- 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 INNATE 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 ZONOTIC BACTERIAL PATHOGEN *Lactococcus garvieae* RTCLI04 ISOLATED FROM FOOD FISH, RAINBOW TROUT *Oncorhynchus 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, Bennett 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

- 12:20 Susan Gibson-Kueh**, Sunita Awate, Markus Schrittwieser  
A COMPARATIVE STUDY OF THE PATHOLOGY ASSOCIATED WITH SCALE DROP VIRUS AND *Lates calcarifer* HERPESVIRUS IN ASIAN SEABASS *Lates calcarifer*
- 13:00 LUNCH**
- 14:00 Dongdong Wang**, Gilbert Van Stappen, Nelia Mbewe, Nancy Nevejan  
FOLLOWING THE INFECTION PROCESS OF VIBRIOSIS IN PACIFIC OYSTER *Crassostrea gigas* AND BLUE MUSSEL *Mytilus edulis* LARVAE USING FLUORESCENCE LABELING AND HISTOPATHOLOGY METHODS
- 14:20 Muhammad Aris**, Tamrin Ali Ibrahim, Rusmawati Labenua  
DEVELOPMENT OF PCR TECHNIC WITH SPECIFIC PRIMER FOR QUICK DETECTION OF BACTERIAL PATHOGEN CAUSING *ICE ICE* DISEASE ON SEAWEED
- 14:40 Jeffrey Ling**  
SCALE DROP DISEASE VIRUS (SDDV) IN BARRAMUNDI: CURRENT UNDERSTANDING OF ITS CLINICAL PRESENTATION, PATHOLOGY, AND MANAGEMENT
- 15:00 Kirby Chen**, Bing Liang, Naomi Koh, Mohamad Yazid Anuar  
SODIUM PERCARBONATE (SPC) FOR PARASITE MANAGEMENT IN TROPICAL MARINE AQUACULTURE
- 15:20 Stephen Chi Ho Chan**, Sophie St-Hilaire, Tzu Hsuan Cheng, Chi Fai Leung, Ka Man Chan, Kwok Zu Lim, William Furtado, Giana Bastos Gomes  
EMAMECTIN BENZOATE TREATMENT OF HYBRID GROUPER INFECTED WITH SEA LICE IN HONG KONG
- 15:40 BREAK**
- 16:00 Barbara Rossi**, Maria Angéles Esteban, José María García-Beltrán, Alberto Cuesta, Andrea Piva, Ester Grilli  
ANTIMICROBIAL ACTIVITY OF DIFFERENT ORGANIC ACIDS AGAINST *Vibrio* spp. *IN VITRO*
- 16:20 I-Tung Chen**, Waldo G. Nuez-Ortín  
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 *Aptos aptos* AND ITS POTENTIAL USE IN VIBRIOSIS 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 damsela* subsp. *damsela* 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 IRIDOVIRAL 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 COMMERCIALY 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 PELLETTED 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

# SHRIMP NUTRITION AND FEEDS

Wednesday, November 30 11:40 - 17:40 Garnet 212

Chairs: Albert G.J. Tacon, Fanny Yasumaru



- 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*
- 16:40** **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
- 17:00** **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



- 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**, Martiña 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
- 15:20 Richard Cottrell**, Benjamin Halpern, Helen Hamilton, Beth Penrose, Chris G. Carter,  
Louise R. Adams, Alexandra Johne, Julia Blanchard  
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



- 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 Bijns**, 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)

## SHRIMP FARMING SYSTEMS

Wednesday, November 30 14:00 - 17:40 Garnet 214

Chair: Loc Tran

- 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, Syaury 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, Nesly Marie Bretana  
VARIABLES ASSOCIATED WITH A HIGH SURVIVAL RATE IN A CENTRAL PHILIPPINES SHRIMP FARM CULTURE



**GENERAL FRESHWATER**

Wednesday, November 30 14:00 - 17:40 Opal 103

Chair: Bibha Kumari

- 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 FEED 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 ornatu*

### 5. Irfan Zidni

ANTIBIOTICS AND ANTIOXIDANTS IMPROVED SPERM QUALITY OF SPOTTED HALIBUT *Verasfer 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** **Madiah Jafar Sidik**, Nura Nabila Johari, Muhammad Ikhlas Zabidi, Siti Nor Fatimah 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

THURSDAY

- 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 POMPAÑO *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

## PANGASIU 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 *Carias 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**  
nutrition through innovation

- 09:00** **Adriana Artilles**, 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



THURSDAY

- 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

THURSDAY

# 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

THURSDAY

- 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.



- 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 *Pangasianodon 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 *Pangasianodon*  
*hypophthalmus* FARMS IN VIETNAM TO PROMOTE RESPONSIBLE USE OF  
ANTIBIOTICS

- 11:40** **Hoai Truong**, Huong Giang Nguyen, Van Kim, Lua Dang, Ha Dong, Ninh 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 PROTOZOAN AND BACTERIAL  
MICROBIOME IN A TROPICAL FISH FARM
- 12:40** **LUNCH**
- 14:00** **Pattanapon Kayansamruaj**, Pattarawit Kerddee  
PREVALENCE OF MEGALOCYTVIRUS 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 Ninh Ninh,  
Ruth Garcia Gomez Garcia Gomez  
EFFECT OF AN ESSENTIAL OIL-BASED FUNCTIONAL ADDITIVE ON REDUCTING  
THE IMPACT OF ECTOPARASITES AND IMPROVING GROWTH PERFORMANCE  
IN GROUPER *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
- 10:00 Paola Reale, Franck Le Gall, Nicolas Prost, Christian Jensen, Natalie Panasiak, Steven Prescott, Samuel Dupont, Maxime Paris, Giovanni Marco Cusimano, Jui-Che Chiang, Shane A. Hunter, Dannie O'Brien, Marina Garcia, Andres Acosta, Dominique Durand, Lars Ebbesson, Tamás Bardócz**  
REIRCULATING 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

THURSDAY

12:40 LUNCH

14:00 **Wenceslao Valenzuela-Quiñonez**, Ana Cristina Soto-Medina,  
Wenceslao Valenzuela-Quiñonez, Adolfo Dagoberto Armenta-Bogorquez,  
Ely Sara Lopez-Alvarez, Nadia Vázquez-Montoya, Mariel López-Espinoza  
DIFFERENT CONCENTRATIONS OF NITRATE (NO<sub>3</sub>-) 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 HETEROTROPHIC 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

## SHRIMP NUTRITION AND FEEDS – CONTINUED

Thursday, December 1 09:00 - 17:40 Garnet 212

Chairs: Albert G.J. Tacon, Fanny Yasumaru



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, Naraid Suanyuk  
NATURAL PIGMENT FROM PARACOCCLUS 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

- 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-AI 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 Chern 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

# FRIDAY, December 2

## SELECTIVE BREEDING AND QUANTITATIVE GENETIC IMPROVEMENT

Friday, December 2 09:00 - 10:40 Topaz 220

Chair: Amrit Bart

- FRIDAY**
- 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 *Plecoglossus 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?

FRIDAY

- 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 Pormeher, 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 *Verasfer 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



# SEAFOOD PROCESSING, PRODUCTS, HACCP, STANDARDS, AND CERTIFICATES

Friday, December 2 09:00 - 12:40 Peridot 206

Chairs: Yang Hongshun, Sarah Osama Makled

- 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
- 11:20** **Amaya Albalat**, Douglas M. Neil, Sasha Saugh, Karen D. Adler, Ahmed Elsheshtawy,  
Sonia Rey Planellas Rey Planellas, Simon MacKenzie, Thomas Sicheritz-Pontén,  
Martha Clokie, Benjamin Gregory, James Clokie  
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

FRIDAY

## GENERAL BIOTECHNOLOGY

Friday, December 2 11:00 - 12:40 Topaz 220

Chair: Yeong Yik Sung

- 11:00 Yik Sung Yeong**, Mimi Iryani Mat Taib, Saranya Sinnasamy, Qing Li, Tengku Sifzizul 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 Abnoui  
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 Vinicius 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

## MICROALGAE-BACTERIA VALORIZATION: PRODUCTION TO APPLICATION

Friday, December 2 09:00 - 12:40 Opal 103

Chairs: Mohd Razif Harun, Natrah F.M. Ikhsan

- 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  
OCCURRENCE, ANTIMICROBIAL RESISTANCE AND VIRULENCE FACTORS  
OF *Vibrio* SPECIES ISOLATED FROM CULTURED SHRIMP IN PENINSULAR  
MALAYSIA

FRIDAY

# MICROALGAE, SEAWEEDS, AND SEAGRASSES

Friday, December 2 09:00 - 12:40 Peridot 204

Chairs: Sitti Raehanah Muhamad Shaleh, Felix Sugantham

- 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 Nadiyah 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

FRIDAY

- 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 Mildenerberger  
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 Ogunremi**, Flourizel Igbani, Dauda K. Abdullahi,  
Catherine Y. Shetur  
SOCIO-ECONOMIC CHARACTERISTICS OF FISH FARMERS AND  
AQUACULTURE DEVELOPMENT PRACTICES IN IBI 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

## BIVALVES

Friday, December 2 09:00 - 15:40 Garnet 218

Chair: Leila Basti

- 09:00 Mohaddeseh Ahmadnezhad**, Homayoun Hosseinzadeh Sahafi, Mohammad Sayad Bourani, Sohrab Dajandiyani, 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 McConkey  
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 Halafih, 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



- 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*
- 14:20 Cristiano M. Rossignoli**, Kelvin M. Shikuku, Timothy Manyise, Ahmed M. Nasr-Allah, Patrik J.G. Henriksson, Rodolfo Dam Lam, Denise Lozano, Nhuong Tran, Arjen Roem, Alaa Badr, Shabaan Ashraf, Maria A. Calmet, Roberta Moruzzo, Harrison Charo-Karisa, Alexandros Gasparatos, John A.H. Benzie, Michael J. Phillips  
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



- 09:00** **Wanilada Rungrassamee**, Pacharaporn Angthong, Tanaporn Uengwetwanit, Umoporn Uawisetwathana, Sureerat Tang, Nitsara Karoonuthaisiri, Sage Chaiyapechara, 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 Artilles**, 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 Suwandi  
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 *Paralichthys olivaceus*

- 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*
- 11:20 Rosie S. Abalos**, Augusto E. Serrano Jr., Barry Leonard M. Tumbokon, Raul V. Dela Pena, Ricardo A. de Guzman, Lemark M. Bautista  
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 Sfoeo, 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 Chng  
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

FRIDAY

- 14:40 Stanley Serfling**  
SEAFOOD HACCP INSPECTION PROCESS BY THE UNITED STATES FOOD AND DRUG ADMINISTRATION
- 15:00 Guillaume Drillet**, Claudio Gianoli, Li Gang, Aristeia 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

## PROBIOTICS, PREBIOTICS, SYNBIOTICS

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 Srinivas Rayaprolu**  
EFFECT OF PROBIOTICS ON PATHOGENIC *Vibrio* BACTERIAL POPULATIONS IN CULTURE PONDS OF *Litopenaeus vannamei* AT MOPHUS BANDER, SRIKAKULAM DISTRICT, ANDHRA PRADESH, INDIA

## 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 SEAWEEEDS, *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
- 16:20 Md. Eilious Hosain**, S.M. Nurul Amin, Aziz Bin Arshad, Mohd Salleh Kamarudin, Murni Marlina Abd Karim  
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

FRIDAY



## GENERAL AQUACULTURE

Friday, December 2 14:00 - 17:40 Opal 103

Chair: Belinda Yaxlay

- 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?

FRIDAY