WELCOME, OPENING CEREMONY AND PLENARY 1
Sunday, December 12  09:00 - 10:40  Principle Hall
Chair: Sherif Sadek

09:00  WELCOME WORDS

09:30  Abdel-Fatah El-Sayed
STATUS OF AQUACULTURE IN EGYPT

10:00  OPENING CEREMONY

COUNTRY REPORTS
Sunday, December 12  11:00 - 12:20  Principle Hall
Chair: John Walakira

11:00  Noam Mozes, Amit Savaya, Guy Rubinstein, Nir Froyman
DEsert Land-Based Aquaculture and Offshore Mariculture Recent Innovation and Development Directions in Israel

11:20  John Walakira, Etienne Hinrichsen, Blessing Mapfumo, Lanre Badmus, Nabil Ibrahim, Victoria Boit, Heike Baumüller
Enhancing Food Security, Job and Wealth Creation in Africa Through Aquaculture: Case Studies of Successful Countries and Innovations

11:40  Bernadette Fregene, Harrison Charo-Karisa, Ajibola Olaniyi
Impact of Aquaculture Compact, Technologies for African Agriculture Transformation Program on Africa's Tilapia Seed Production

12:00  Etienne Hinrichsen
Addressing Export Barriers for South African and Namibian Shellfish - The Trade Forward Southern Africa Programme
AQUACULTURE DEVELOPMENT
Sunday, December 12  11:00 - 12:20  Small Thaetre
Chair: Salah Mesalhy Aly

11:00  Eman El-Wazzan, Ahmed Kotit, Ahmed S.A. Abbas
POTENTIAL AND CHALLENGES OF HATCHERY-BASED BIVALVES AQUACULTURE IN EGYPT: AN EMERGING INDUSTRY

11:20  Sherif Sadek, Mohamed Fathy Osman, Noor Ahmed
GROWTH PERFORMANCE IN SEMI-INTENSIVE SHRIMP Litopenaeus vannamei PONDS FROM DIBA TRIANGLE ZONE, EGYPT, USING TWO COMMERCIAL FEEDING TYPES: SHRIMP FEED (38%CP) AND TILapia FEED (36%CP)

11:40  Flower E. Msuya, Elizabeth Cottier-Cook, Claire Gachon, Juliet Brodie, Louise Shaxson, Ivy Matoju, Amelia Buriyo, Sadock Rusekwa, Msafiri Andrew, Janina Brakel, Iona Campbell, Anicia Hurtado, Phaik Eem Lim, Stuart Ross, Grant Stentiford
CHALLENGES OF THE SEAWEED INDUSTRY IN TANZANIA AND THE ROLE OF THE GLOBalSEAWeedSTAR PROJECT

12:00  Abisola Akinyemi, Bernadette Fregene, Bolarin Omonona
GENDER AND CREDIT CONTROL AMONG AQUACULTURE PRODUCERS IN SOUTHWESTERN, NIGERIA

SEED PRODUCTION
Sunday, December 12  11:00 - 12:20  Multiple Purpose Room
Chair: Steve Amisah

11:00  Reham Negm, Hadir Abdel Maguid Aly, Heba Saad El-Sayed
DETERIORATION OF NEWLY HATCHED LARVAE AND POTENTIALITY OF REARING LARVAL AND POST-LARVAL STAGES OF EUROPEAN SEA BASS Dicentrarchus labrax IN STRESSED GROUND MARINE WATER THROUGH MANAGING WATER SYSTEMS

11:20  Temitope Adebayo, Adebisi Musefiu Tiamiyu, Titilope Mary Oluojo, Abigael Temitope Akinsowon
AN EVALUATION OF INDUCED FISH BREEDING TECHNIQUES IN AFRICA CATFISH Clarias gariepinus (BURCHELL, 1822)

11:40  Buumba Hampuwo, Daud Kassam, Jeremiah Kango’mbe, Rose Basiiota, Alexander Kefi
THE REPRODUCTIVE PERFORMANCE OF THREE POPULATIONS OF Oreochromis andersonii (CAUSTELNAU, 1861) BROODFISH

12:00  Ahmed Md. Salem, Sara Castanho, João Henriques, Ana Candeias-Mendes, Margarida Gamboa, Wilson Pinto, Pedro Pousão-Ferreira, Laura Ribeiro
DECREASING ARTEMIA PERIOD AS A STRATEGY FOR Argyrosomys regius LARVAE EARLY WEANING: IMPACTS ON GROWTH AND DIGESTIVE PHYSIOLOGY
11:00  Abdel-Fattah El-Sayed  
**NUTRITIONAL FISH DISEASES – HOW TO AVOID**

11:20  Mohamed Marzouk  
**BIOSECURITY IN FISH CULTURE**

11:40  Win Surachetpong, Jidapa Yamkasem, Puntanat Tattiyapong  
**EMERGING VIRAL DISEASES THAT THREATEN GLOBAL TILAPIA AQUACULTURE**

**NUTRITION**

Sunday, December 12  11:00 - 17:40  Lecture Hall  
Chair: Marc Verdegem, Ashraf El Dakar, Guillaume Le Reste

11:00  Radi Mohamed, Ahmed Abozeid, Mohamed Abdel-Rahim, Fatma Abouelenien, Asmaa Elkaradawy  
*Quillaja saponaria* AND/OR *Yucca schidigera* AMELIORATE WATER QUALITY, GROWTH PERFORMANCE, IMMUNE-OXIDATIVE STATUS, DIGESTIVE ENZYMES, INTESTINE AND GILLS HISTOMORPHOLOGY OF NILE TILAPIA *Oreochromis niloticus*

11:20  Robert Serwata, Daniel Arana, Jorge Dias  
**EXOGENOUS PHYTASE APPLICATION IN NILE TILAPIA *Oreochromis niloticus* FEED REDUCES THE REQUIREMENT FOR INORGANIC PHOSPHORUS AND ENHANCES GROWTH PERFORMANCE**

11:40  Sofolabi Sofela, Karen Veverica, Akinleye Akinwale  
**FEED CONSUMPTION AND FEED CONVERSION OF *Clarias gariepinus* RAISED IN SMALL PLASTIC TANKS AFFECTED BY METHOD OF WATER EXCHANGE**

12:00  Marc Verdegem, Hala Saber Khalil, Diaa Al-Kenawy, Sahya Maulu, Rodrigue Yossa, Alaa Badr-Eldin, Arjen Roem, Johan Schrama  
**GROWTH EFFICIENCY, APPARENT NUTRIENT DIGESTIBILITY, AND NATURAL FOOD INTAKE IN NILE TILAPIA *Oreochromis niloticus* FED DIETS WITH DIFFERENT LEVELS OF BIO-AVAILABLE PHOSPHORUS**

12:20  LUNCH

14:00  Radi Mohamed, Asmaa Elkaradawy, Ahmed Abozeid, Asmaa El-Nokrashy, Mohamed Abdel-Rahim  
**SYNERGISTIC EFFECTS OF THE SOAPBARK TREE *Quillaja saponaria* AND VITAMINE ON WATER QUALITY, GROWTH PERFORMANCE, BLOOD HEALTH, GILLS AND INTESTINE HISTOMORPHOLOGY OF NILE TILAPIA *Oreochromis niloticus* FINGERLINGS**
14:20 Mutia Grace Mumbi
EFFECTS OF SEAWEEDS Chaetomorpha crassa AND Ulva rigida AS FEED ADDITIVES ON THE GROWTH PERFORMANCE AND BODY COMPOSITION OF NILE TILAPIA Oreochromis niloticus FINGERLINGS

14:40 Olufemi Akanbi, Niall Vine, Henry Njom, Graeme Bradley
ISOLATION AND IDENTIFICATION OF POTENTIAL PROBIOTICS FROM THE DIGESTIVE TRACT OF THE SHORT-SPINED SEA URCHIN Tripneustes gratilla

15:00 Lawrence Nwanna, Benson Ikuesan
ALOE VERA LEAF EXTRACTS IRON-OXIDE NANOPARTICLES IMPROVED GROWTH AND IMMUNITY OF AFRICAN CATFISH Clarias gariepinus

15:20 Mexford Mulumpwa
THE POTENTIAL OF INSECT MEAL IN IMPROVING FOOD SECURITY IN MALAWI: AN ALTERNATIVE OF SOYBEAN AND FISHMEAL IN LIVESTOCK FEED

15:40 BREAK

16:00 Guillaume Le Reste, Mamy Andriantsoa, Henri Andriniaina, Damien Desprez, Léo Godard, Fanomezantsoa Randriarilala, Samuel Rakotoambinina, Lovasoa Rakotoasimbola, David Rakotomavo, Frédéric Mauny, Sylvain Delord
EFFECT OF GRADED INCLUSION RATE OF A LOCALLY PRODUCED PEANUT Arachis hypogaea MEAL IN EXTRUDED FEED ON THE GROWTH OF CARP Cyprinus carpio AND TILAPIA Oreochromis niloticus FARMED IN THE ANALAMANGA REGION IN MADAGASCAR

16:20 Alaa M. Badr-Eldin, Darja Dobermann, Diaa Al-Kenawy, Hussein Alkady, Hassan Ali
GROWTH OF NILE TILAPIA Oreochromis niloticus ABBASSA STRAIN FED ON INSECT MEAL, FISH MEAL OR PLANT BASED DIETS IN EGYPT

GREY MULLET
Sunday, December 12  11:00 - 17:40  Delegate's Hall
Chair: Kevan Main, Ashraf Goda

11:00 H. Lee Blankenship, Kenneth M. Leber
RESPONSIBLE APPROACH TO MARINE STOCK ENHANCEMENT

11:40 Noam Mozes, Amos Tandler, Kevan Main, Ken Leber, Mohamed A. Essa
STOCK ENHANCEMENT AND PRODUCTION OF THE GREY MULLET FRY – A SUSTAINABLE CHOICE. A MERC PROJECT

12:00 Amr Moneer Helal, Mohamed A. Essa, Amr M. Helal, Nevine M. Abou Shabana, Basem S. Abdelaty, Mohamed A. Elokaby, Mohamed Baroma, Mohamed El Hammamy, Ahmad M. Aboseif, Ashraf M.A.-S. Goda
EFFICACY OF CODED WIRE-TAGGING AS A TOOL TO ENHANCE THE STOCK OF GREY MULLET IN WADI EL-RAYAN LAKE AS ENCLOSED WATER BODIES
12:20  LUNCH

14:00  Guy Rubinstein, Iris Meiri, Hanna Rosenfeld, Noam Mozes
STOCKING MULLET FINGERLINGS IN THE SEA OF GALILEE AS PART OF AN ECOLOGICAL BALANCE MANAGEMENT

14:20  Neila Hamza, Ines Ben Khemis, Mohamed Salah Azaza
SEEDING OF YOUNG TAGGED MULLETS IN TUNISIAN RESERVOIRS: PRELIMINARY RESULTS

14:40  William Koven, Oriya Nixon, Dor Israeli, Iris Meiri-Ashkenazi, Enric Gisbert, Amos Tandler
CHANGING NUTRIENT REQUIREMENTS DURING THE TROPHIC SHIFT FROM LARVAL CARNIVORY TO JUVENILE OMNIVORY IN GREY MULLET Mugil cephalus

15:00  Mohamed Naceur Dhraief, Leila Guerdelly, Dora Zouiten, Mohamed Salah Azaza
MANAGEMENT OF CAPTIVE BROODSTOCK GREY MULLET Mugil cephalus AT INSTM HATCHERY

15:20  William Koven, Iris Meiri Ashkenazi, Aldo Corriero, Rosa Zupa, Oriya Nixon, Vered Zlatnikov, Chen Bracha, Hanna Rosenfeld
ASSESSMENT OF THE EFFECTS OF CAPTIVITY ON FIRST SEXUAL MATURITY OF WILD-CAUGHT AND HATCHERY-PRODUCED MULLET Mugil cephalus

15:40  BREAK

16:00  Lior David, Dor Agiv, Itay Oz, Evgenia Marcos-Haddad, Ayana Benet-Perelberg, Boaz Ginzbourg
DEVELOPING SEX-REVERSED MALES BROOD FISH FOR PRODUCTION OF ALL-FEMALE PROGENY POPULATIONS OF THE GREY MULLET

16:20  Sherif Sadek
PRODUCTION OF MULLET IN CAGES: EGYPTIAN CASE

16:40  Boaz Ginzbourg, Noam Mozes
COMMERCIAL SCALE HATCHERY PRODUCTION OF MULLET FRY IN ISRAEL-CHALLENGES AND SUCCESS

17:00  Kevan Main
PANEL DISCUSSION
SUSTAINABLE AQUACULTURE
Sunday, December 12    14:00 - 15:40    Small Theatre
Chair: Abd El Rahman Khattaby
Sponsor: Aller Aqua

14:00 Abd El Rahman Khattaby, Technical Support Advisor, Aller Aqua Egypt
FUNCTIONAL FEEDS

14:20 Hanno Slawski, Group R&D Director, Aller Aqua Group
SUSTAINABLE FEED: RAW MATERIALS AND COMPOSITION

14:40 BREAK

15:00 Mohammed Teleb Mekawy, Technical Support Advisor, Aller Aqua Egypt
WATER QUALITY AND DETERMINANTS OF SUSTAINABLE AQUACULTURE DEVELOPMENT

15:20 Poul Rosendorf, Project Manager, OxyGuard International
CONTROL IS KEY! WATER QUALITY MEASURING AND CONTROL, FARM MANAGEMENT

15:40 QUESTIONS

16:00 THANK YOU FOR TODAY

SEAWEED, SEA URCHINS
Sunday, December 12    14:00 - 15:40    Multiple Purpose Room
Chair: Msuya Flower

14:00 Flower Msuya, Msafiri Ndawala, Amelia Buriyo, Elizabeth Cottier-Cook
WHAT TYPES OF MACRO-ORGANISMS FOUL SEAWEED FARMS? CASE STUDY OF ZANZIBAR, TANZANIA

14:20 João Araújo, Ana Candeias-Mendes, Paulo Loureiro, Jorge Dias, Florbela Soares, Narcisa Bandarra, Pedro Pousão-Ferreira
TESTING A NEW FORMULATED FEED FOR PURPLE SEA URCHINS Paracentrotus lividus ON ONGROWING CULTURE

14:40 Jerry Mang'ena, Claire Gachon, Clement Mlay, Janina Brakel, Rose Masalu
ASSESSMENT OF CAUSATIVE AGENTS IN ICE ICE DISEASE IN Kappaphycus alvarezii AND RELEVANT MOLECULES FOR PROLIFERATION OF ALGAL PATHOGENS IN ZANZIBAR ISLANDS
14:00  **Mohammad Y. Abubakar**, Ipinjolu J. Kayode, Yuzine B. Esa, Magawata Ibrahim, Hassan W. Akin, Turaki A. Abdullahi  
GENETIC DIVERSITY OF WILD POPULATION OF *Heterobranchus bidorsalis* AND *Heterobranchus longifilis* BASED ON MITOCHONDRIAL DNA CYTOCHROME OXIDASE 1 GENE ANALYSIS

STRUCTURE GENETIQUE DES POPULATIONS SAUVAGES ET D’ELEVAGE DE TILAPIA DU NIL, *Oreochromis niloticus* AU BENIN BASEE SUR LA TECHNOLOGIE SNP A L’ECHELLE DU GENOME

14:40  **Sajad Nazari**, Saltanat Najjar Lashgari, Mahdi Golshan  
DETECTION OF FUNCTIONAL SNP MARKERS IN RAINBOW TROUT *Onchorhynchus mykiss* FROM NEXT GENERATION SEQUENCING (NGS) DATA

15:00  **Mona Saleh**, Gokhlesh Kumar, Abdel-Azeem Abdel-Baki, Mohamed Dkhil, Saleh Al-Quraishy, Mansour El-Matbouli  
NEW PERSPECTIVES OF FISH-PARASITE INTERPLAY BY PROTEOMIC ANALYSES OF *Ichthyophthirius multifiliis* INFECTED COMMON CARP *Cyprinus carpio* SKIN MUCUS

15:20  **Edwin Kikamba**, Daniel Sikawa, Wilson Jere, Petros Chigwechokha  
ESTIMATES OF COMBINING ABILITY ON GROWTH TRAITS IN A FULL DIALLEL CROSSES OF THE THREE STRAINS OF *Oreochromis macrochir* (BOULENGER, 1912)

15:40  **Asma Karim**, Haji Muhammad  
DNA BARCODING APPLICATION IN STUDY OF ICHTHY- BIODIVERSITY IN RIVER INDUS AT TAUNSA BARRAGE, PAKISTAN
AQUACULTURE DEVELOPMENT - CONTINUED
Sunday, December 12    16:00 - 17:40    Small Theatre
Chair: Etienne Hinrichsen

16:00 Mohammad Al-Zibdah
LAND BASED AQUACULTURE PRACTICES IN AQABA; A VISION FOR PROGRESS IN JORDANIAN IMPLEMENTATION

16:20 MJohn Domozoro, Karen Veverica, Jeff Terhune, Sofela Sofolabi, Chris Slemp, Josh Neiderman, Theresa Fang
SUPPORTING AQUACULTURE DEVELOPMENT ACTIVITIES

16:40 Diogo Gomes, Rui Ferreira, João Ferreira, Jorge Mafuca, Claque Maunde
ZONING FOR FISHERIES AND AQUACULTURE IN CAHORA BASSA, MOZAMBIQUE

17:00 Etienne Hinrichsen, Papius Dias Tibihika, John Benzie, Jose Parajua, Koffi Honouga, Elysee Nzohabonayo
ADVANCING AQUACULTURE IN EAST AFRICA: THE TRUE-FISH PROJECT
PLENARY 2
Monday, December 13    09:00 - 09:40    Lecture Hall
Chair: Sherif Sadek

09:00  Abdulhakim Elwaer
UNLOCKING AQUACULTURE PROSPECTS IN AFRICA AND THE NEAR EAST

NUTRITION - CONTINUED
Monday, December 13    09:40 - 10:20    Lecture Hall
Chair: Ashraf El Dakar

09:40  Ashraf El-Dakar, Shymaa M. Shalaby, Esraa E. Mostafa, Mohamed F. Abdel-Aziz
DETERMINING THE OPTIMUM LEVEL OF DIETARY PROTEIN AND FEEDING FOR
IMPROVING THE GROWTH PERFORMANCE AND FEED EFFICIENCY OF JUVENILES
HYBRID TILAPIA Oreochromis niloticus × Oreochromis aurea REARED IN BRACKISH
WATER

10:00  Daniel Montero, Silvia Torrecillas, Tibiliabin Benitez-Santana, Marisol Izquierdo
REPLACEMENT OF FISHMEAL BY ANARCTIC KRILL MEAL IN DIETS OF EUROPEAN
SEA BASS Dicentrarchus labrax: EFFECTS ON GROWTH PERFORMANCE, FEED
UTILIZATION AND LIVER METABOLISM

10:20  Hanoch Glassner, Margarita Smirnov, Tamir Ofek, Yiftach Cohen, Benny Ron
USING DESALINATION BRINE FOR SEABASS Dicentrarchus labrax AQUACULTURE

PHYSIOLOGY
Monday, December 13    09:40 - 10:20    Small Theatre
Chair: Adeosun Festus

09:40  Abinawanto Abinawanto, Nia Vardini, Jojo Subagja, Anang Hari Kristanto, Retno Lestari,
Astari Dwiranti, Anom Bowolaksono
VIABILITY AND FERTILIZATION RATE OF Tor soro SPERMATOZOA AFTER
FREEZING: THE EFFECT OF EGG YOLK FREE-RANGE CHICKEN AS A NATURAL
CRYOPROTECTANT

10:00  Md. Jakiul Islam, Matthew James Slater, Andreas Kunzmann
MITIGATION OF EXTREME HEATWAVE STRESS IN FISH THROUGH DIETARY
MANIPULATION: THE CASE OF EUROPEAN SEABASS Dicentrarchus labrax
AQUATIC ANIMAL HEALTH - VET TRAINING
Monday, December 13    09:40 - 10:20    Multiple Purpose Room
Chair: Mohamed Marzouk
Sponsor:

09:40 Ajangale Nelly Isyagi, Vivian Lee, Eva Marie Quijano Cardé, Claudia Venegas, Darbi Jones, Bartolomeo Gorgoglione
FOSTERING OPPORTUNITIES TO ENHANCE THE AQUATIC VETERINARY EDUCATION

10:00 Jeff Terhune, Karen Veverica, John Domorozo, Sofela Solalabi, Theresa Wang, Joshua Neiderman, Chris Slemp
IMPROVING FISH HEALTH CAPABILITIES IN EMERGING AQUACULTURE INDUSTRIES IN WESTERN SUB-SAHARAN AFRICA

10:20 Selim A. Alarape, Oluwaseun A. Ogundijo, Veronica E. Adetunji, Olufemi B. Adedeji, Olanike K. Adeyemo
ROLES OF FACULTY OF VETERINARY MEDICINE IN AQUATIC MEDICAL TRAINING AND RESEARCH IN NIGERIA: A CASE STUDY OF UNIVERSITY OF IBADAN

EDUCATION AND TRAINING
Monday, December 13    10:40 - 12:00    Delegate's Hall
Chair: Sofela Sofolabi
Sponsor:

10:40 Sipho Mafuyeka, Deborah Robertson-Anderson, Khalid Salie
AQUACULTURE SKILLS AUDIT IN KWAZULU NATAL (RSA)

11:00 Mary Opiyo, Jane Fonda, Betty Nyonje, Gilbert Van Stappen
A STRATEGIC POLICY FRAMEWORK FOR AQUACULTURE EDUCATION IN KENYA

11:20 Mary-Jane Thaela-Chimuka, Kevin Ngoepe, Anathi Mbona, Simpiwe Nini, Nkhane Nengovhela
ASSESSING CHALLENGES AND OPPORTUNITIES FOR SMALLHOLDER TILAPIA Oreochromis mossambicus FARMERS USING CONTINUOUS IMPROVEMENT AND INNOVATION TOOL IN LIMPOPO PROVINCE – SOUTH AFRICA

CONTRIBUTED SESSION
Monday, December 13    09:40 - 10:20    Room C
Chair: TBA

09:40 Jenna Kolitari, Kejsi Aga, Arjan Demiri, Rigers Bakiu
IDENTIFICATION OF GHOST NETS IN VLORA BAY, SOUTH ADRIATIC SEA

10:00 Yew-Hu Chien, I Chiu Liao, Eduardo Leano
A NEW BOOK: MULLET AND ITS AQUACULTURE
TILAPIA NUTRITION
Monday, December 13    10:40 - 12:00    Lecture Hall
Chair: Abd El Rahman Khattaby
Sponsor: AQUA

10:40  Abd El-Rahman Ahmed Khattaby
USING FUNCTIONAL FEED TO HELP OVERCOME STRESS AND PATHOGENIC BACTERIA AT THE EGYPTIAN TILAPIA Oreochromis niloticus FARMS

11:00  Diaa Al-Kenawy, Hala Saber Khalil, Marc Verdegem, Taofik Momoh, Rodrigue Yossa, Alaa Badreldin, Arjen Roem, Johan Schrama
EFFECT OF DIETARY LYSINE DEFICIENCY ON NILE TILAPIA Oreochromis niloticus PRODUCTION IN FERTILIZED PONDS

11:20  Rodrigue Yossa, Alexander M. Greiling, Rose Komugisha Basiita, Masautso E. Sakala, Wes Baumgartner, Adam Taylor, Delbert M. Gatlin III
REPLACING FISHMEAL WITH THE SINGLE CELL PROTEIN, DY-PRO, IN NILE TILAPIA Oreochromis niloticus DIETS

11:40  Alaa M. Badr-Eldin, Hussien Al-Kady, Mohamed Al Amir, Diaa Al-Kenawy, Rodrigue Yossa
EFFECT OF DIFFERENT LEVELS OF CORN DRIED DISTILLER’S GRAINS WITH SOLUBLES (DDGS) AND SUNFLOWER MEAL ON THE GROWTH PERFORMANCE AND BODY COMPOSITION OF NILE TILAPIA Oreochromis niloticus

REPRODUCTION PHYSIOLOGY
Monday, December 13    10:40 - 12:00    Small Theatre
Chair: Besa Darlington

10:40  Kalima Sauti, Wilson Lazarus Jere, Alexander Shula Kefi
SEX RATIO, GROWTH AND SURVIVAL OF Oreochromis tanganicae (GÜNTHER, 1894) FED ON A DIET WITH VARYING LEVELS OF 17a-METHYLTESTOSTERONE

11:00  Darlington Besa, Rabecca Mainza, Chad Kancheya, Oliver Hasimuna, Mavis Sialumano, Masiliso Phiri, Bornwell Seemani, Lumbwe Kalumba, Martin Mwale, Evans Mutanuka, Mbangai Mbewe, Harris Phiri, Alexander Kefi, Cyprian Katongo
PRELIMINARY DEVELOPMENT IN THE ARTIFICIAL PROPAGATION OF THE GIRAFFE CATFISH Auchenoglanis occidentalis (VALENCIENNES, 1840) IN CONCRETE TANKS AND EARTHEN PONDS

11:20  Peter Allen, Brandon Gerhart, Abby Vaughn
TEMPERATURE EFFECTS ON GROWTH, METABOLISM AND PHYSIOLOGICAL PERFORMANCE OF CULTURED CATFISH

11:40  Sahya Maulu, Hualiang Liang, Xianping Ge, Heng Yu, Dongyu Huang, Ji Ke, Mingchun Ren, Haifeng Mi
EFFECT OF DIETARY Clostridium autoethanogenenum PROTEIN ON GROWTH, BODY COMPOSITION, PLASMA PARAMETERS, AND HEPATIC GENES EXPRESSION RELATED TO GROWTH AND AMPK/TOR/PI3K SIGNALING PATHWAY OF THE GENETICALLY IMPROVED FARmed TILAPIA (GIFT) JUVENILES
10:40 Amelia Paredes, Victor Manuel Vidal-Martínez, Vanessa Papiol, Ivan Abunader, Rodolfo Del Río Rodríguez, Amelia Paredes-Trujillo
NEGATIVE EFFECT OF ECTOPARASITE BURDENS ON THE CONDITION FACTOR FROM FARMED TILAPIA Oreochromis niloticus IN THE YUCATAN, MEXICO

11:00 Mamdouh Elgendy, Shimaa Ali
MOLECULAR CHARACTERIZATION OF Vibrio spp. AFFECTING FARMED Oreochromis niloticus WITH SPECIAL REFERENCE TO VIRULENCE, ANTIBIOTIC SUSCEPTIBILITY, PATHOGENICITY AND HISTOPATHOLOGICAL ALTERATIONS

11:20 Mansour El-Matbouli, Johanna Wolfbauer, Mohamed Shaalan, Elsayed Eldessouki, Hatem Soliman, Sven Bergmann, Mona Saleh
TILAPIA LAKE VIRUS (TILV): CURRENT STATUS AND FUTURE PERSPECTIVE

11:40 LUNCH

13:40 Irom B. Okey
EFFICACY OF Ocimum gratissimum (SCENT LEAF) POWDER AS ANAESTHETIC AND ITS EFFECT ON THE HAEMATOLOGY OF Clarias gariepinus JUVENILES

14:00 Ashraf El-Dakar, Shymaa M. Shalaby, Heba T. Abdelshafy, Mohamed F. Abdel-Aziz
USING CLOVE AND MINT OILS AS NATURAL SEDATIVES TO INCREASE THE TRANSPORT QUALITY OF BROODSTOCK NILE TILAPIA Oreochromis niloticus

14:20 Adel Shaheen, Hadeer Youssuf, Eman Abdel Gawad, Amel El Asely, Amany Abbass
SANACORE® GM SUPPLEMENTED FEED BOOST THE HAEMATO-IMMUNOLOGICAL PATTERNS, ANTI-OXIDATIVE RESPONSES, AND Aeromonas vernoii RESISTENCE IN NILE TILAPIA Oreochromis niloticus

14:40 Eman Zahran, Samia Elbahnaswy, Iman Ibrahim, Asmaa Khaled
Nannochloropsis oculata ENHANCES IMMUNE RESPONSE, TRANSCRIPTION OF STRESS, AND CYTOKINE GENES IN NILE TILAPIA SUBJECTED TO AIR EXPOSURE STRESS

15:00 Mai Mahmoud, Mohamed Shaalan, Mona Saleh, Dušan Palic, Mansour El-Matbouli
EVALUATION OF THE EFFICACY OF SALINOMYCIN/AMPROLIUM (SAL/AMP) LOADED CHITOSAN NANOPARTICLES ON THE MYXOSPORES OF Myxobolus cerebralis, THE CAUSATIVE AGENT OF SALMONID WHIRLING DISEASE

15:40 BREAK
16:00 Guillaume Le Reste, Rôger Oliveira e Silva, José Fernando Bibiano Melo, Mathilde Buffière, Hoa Bui, Sékhou Cissé
EFFECTS OF GRADED LEVELS OF CITRUS EXTRACTS IN FEED ON GROWTH, BLOOD PARAMETERS AND SURVIVAL OF NILE TILAPIA Oreochromis niloticus BEFORE AND AFTER A CHALLENGE WITH Aeromonas hydrophila

16:20 Christian Ayisi Larbi, Nasif Dawda Nurudeen, Akwasi Ampofo-Yeboah
EFFECTS OF Eucalyptus globulus LEAF EXTRACT ON GROWTH PERFORMANCE, FEED UTILIZATION AND BLOOD BIOCHEMISTRY OF NILE TILAPIA Oreochromis niloticus

16:40 Saleh Al-Quraishy, Gokhlesh Kumar, Abdel-Azeem Abdel-Baki, Mohamed Dkhil, Mansour El-Matbouli, Mona Saleh
WOUND-HEALING BIOMARKER SIGNATURES IN COMMON CARP SKIN MUCUS IN RESPONSE TO Ichthyophthirius multifiliis

SOCIOECONOMICS
Monday, December 13  13:40 - 15:40  Small Theatre
Chair: Karen Veverrica
Sponsor:

13:40 Karen Veverica, Charles Ngugi, Rachael Gachui
ON-FARM TRIALS IN CENTRAL/EASTERN KENYA TO EVALUATE OPTIONS WHEN EXTRUDED FISH FEEDS ARE EXPENSIVE

14:00 Mirriam Wainaina, Nyabeta Jared, Mirera David, Ollando Jackline
NEEDS ASSESSMENT STUDY FOR GIANT FRESH WATER PRAWN FARMING IN KILIFI COUNTY KENYA

14:20 Bernadette Fregene, Bolarin Omonona
AQUACULTURE VALUE CHAIN ASSESSMENT IN OYO STATE, NIGERIA
NUTRITION PHYSIOLOGY
Monday, December 13  13:40 - 15:40  Lecture Hall
Chair: Ghalwash Huda

13:40  Festus Adeosun, Georgina Fiyifoluwa Leramo, Mavis Titilayo Oghenebrorhie, Olamide Modinot Adeosun
FEEDING HABITS AND DIGESTIVE ENZYMES IN THE GUT OF Chrysichthys nigrodigitatus IN OYAN DAM, ABEOKUTA, OGUN STATE, NIGERIA

14:00  Huda Ghalwash, Abdallah Salah, Asmaa El-Nokrashy, Ahmed Abozeid, Viola Zaki, Radi Mohamed
DIETARY SUPPLEMENTATION WITH BACILLUS SPECIES IMPROVES GROWTH, INTESTINAL HISTOMORPHOLOGY, INNATE IMMUNITY, ANTIOXIDATIVE STATUS, AND EXPRESSION OF GROWTH AND APPETITE-REGULATING GENES OF NILE TILAPIA FINGERLINGS

CIRCULARITY IN AFRICAN AQUACULTURE
Monday, December 13  13:40 - 17:40  Room C
Chair: Melle Leenstra
Sponsor: The Netherlands, Dutch Aquaculture Experts

13:40  Johan Verreth
CIRCULARITY IN AQUACULTURE AND ITS PERSPECTIVES FOR AFRICA

14:20  Marc Verdegem, Johan Schrama, Kazi Kabir
THE NUTRITIOUS POND CONCEPT

15:00  Kees van Dongen, Hans Boon
OPPORTUNITY STUDY ON CIRCULAR PROTEINS FOR AQUAFEED IN EGYPT

15:40  BREAK

16:00  Andries Kamstra, Hans Boon
DUTCH AQUACULTURE EXPERTS – EXPERTISE IN SUSTAINABLE AQUACULTURE AND RECIRCULATION TECHNOLOGY

16:40  Frans Aartsen
CASE STUDIES “INTENSIVE RAS TILAPIA FARMING”: A TACTICAL APPROACH FOR INTENSIFYING AQUACULTURE IN AFRICA

17:00  REFRESHMENTS
13:40 Welcome

13:45 Keynote – Flavio Corsin, Director of Partnerships – AquaSpark

14:00 Presentations
   i. WAS African Chapter: Blessing Mapfumo
   II. African Union (either AUDA-NEPAD or AU-IBAR)
   III. Governments:
       • South Africa,
       • Malawi,
       • Seychelles
   iv. Regional Economic Communities:
       • SADC (Motseki Hlatshwayo on Aquaculture Value Chain development),
       • IGAD (Eshete Dejen)
   v. Investment partners:
       • Aqua-Spark (Joel Ssemukaaya): Equity investments and the Africa Fund
         **Joel Mugwisa Ssemukaaya**
       INVESTING IN SUSTAINABLE AQUACULTURE IN AFRICA
   vi. Development Finance Institutions (talking also about debt investing):
       • AfDB (Ahmed Khan),
       • World Bank: Harrison
         **Harrison Charo-Karisa, Lovin Kobusingye, Randall Brummett**
       FINANCING SUSTAINABLE SMALL AND MEDIUM SCALE AQUACULTURE GROWTH IN AFRICA
   vii. Research Community:
       • Worldfish
   viii. Producers:
       • Kati Farm
       • Recommend to have videos from different farms, rather than presentations.
   ix. Feed manufacturer (as the biggest contributor to working capital and needing investment):
       • AllerAqua
   x. EU representative
   xi. Philanthropy:
       • Rockefeller Foundation

16:00 Roundtable Discussion Session
16:00 Mexford Mulumpwa  
A CALL FOR WOMEN INCLUSIVENESS IN FISH VALUE CHAIN IN MALAWI

16:20 Naga Murali Chalamalasetti, Rajiv Banerjee, Akshay Kumar Singh  
A SUCCESSFUL AQUACULTURE MODEL WITH SOCIAL RESPONSIBILITY IN AFRICA

16:40 Funmilayo Oyekanmi  
ROLES OF WOMEN IN SMALL SCALE FISHERIES IN OSUN STATE: ENHANCING HOUSEHOLD BENEFITS AND LIVELIHOOD IMPROVEMENT

17:00 Siyanbola Omitoyin, Esama Preye  
GENDER ANALYSIS OF FISHERFOLKS IN THE COASTAL COMMUNITIES OF DELTA AND BAYELSA STATES, NIGERIA

17:20 Siyanbola Omitoyin, Sunday Ime  
GENDER ANALYSIS OF FISHERS ALONG ASEJIRE LAKE

ENVIRONMENTAL WATER QUALITY

Monday, December 13  16:00 - 17:40  Lecture Hall  
Chair: Khalid Salie

16:00 Khalid Salie, Samantha Joao  
A STRATEGIC ASSESSMENT OF GEOTHERMAL WATERS FOR AQUACULTURE IN THE WESTERN CAPE, SOUTH AFRICA

16:20 Julius Maremwa  
INITIATIVES IN WIND ENERGY FOR WELL WATER EXTRACTION IN KENYAN RIPARIAN LANDS

16:40 Amel El Asely, Adel Shaheen, Adel Saied, Soaad Mahmoud  
THE CORRELATION BETWEEN WATER QUALITY PARAMETERS AND CYANOBACTERIA LOAD IN NILE TILAPIA Oreochromis niloticus POND AND ITS IMPACT ON FISH HEALTH

17:00 Mohamed Bakr, Wasseem Emam, Mohamed Abdel-Rahim, Radi Mohamed  
EFFECT OF POND MODIFICATION ON GROWTH PERFORMANCE, WATER QUALITY, HEMATO-BIOCHEMICAL PROFILE, IMMUNE-OXIDATIVE STATUS OF NILE TILAPIA
This is a special session open to all WAS AC members, partners and African aquaculture actors/community attending AFRAQ21. Out-of-Africa delegates interested in African aquaculture are also invited to attend. It will be an opportunity for WAS AC to present its report for the year, strategic vision and a summary of upcoming activities (including announcing upcoming events eg: WAS2025-Uganda; AFRAQ22-Zambia; AASA-South Africa; WAS West Africa-Nigeria, etc). The session will also act as a promotional platform to showcase some of our work activities during the year and encourage participants to join WAS. It will be an opportunity to introduce AC Board members to the African aquaculture community. Through short speeches or presentations, our key partners such as AUDA-NEPAD, Aller Aqua, Aquaculture Africa Magazine, etc. will have the opportunity to connect with the African aquaculture audience. A short panel discussion session will enable WAS AC to engage with the audience thus enabling them to give input in the development of a Chapter which they desire, and also to understand some of the challenges faced by the African regions, where WAS, within its mandate and work programme, can contribute to addressing these challenges.

African Chapter Members Business Meeting.
SOCIOECONOMICS, GENDER - CONTINUED
Tuesday, December 14    09:00 - 10:20    Small Theatre
Chair: Ghulam Kibria
Sponsor:

09:00  David Peter Mina Baya  
IMPACT OF COVID-19 ON FISHERIES AND AQUACULTURE IN SOUTH SUDAN

09:20  Netsayi Noris Mudege, Catherine M. Mwema, Dorothy Chisusu  
THE DETERMINANTS OF INCOME FROM FISH FOR MEN AND WOMEN FISH FARMERS IN THE SOUTHERN PROVINCE OF MALAWI

09:40  Catherine Mawia Mwema, Netsayi Noris Mudege  
SOCIO-ECONOMIC DETERMINANTS AND PROFITABILITY OF SMALLHOLDER AQUACULTURE FARMERS IN MALAWI: DOES WHO YOU SELL TO MATTER?

10:00  Carlos Guevara-Fletcher  
SOCIO ECONOMICAL AND WATER QUALITY ANALYSIS FOR THE IMPLEMENTATION OF A TILAPIA CULTURE (POST CONFLICT AREA) IN FLORIDA-VALLE DEL CAUCA-COLOMBIA

10:20  Olalekan Adekola, Margaret Gatonye, Paul Orina  
EVALUATING AQUACULTURE FARMERS RESPONSE TO CLIMATE CHANGE AND SUSTAINABLE PRACTICES IN KENYA

ENVIRONMENTAL MANAGEMENT
Tuesday, December 14    09:00 - 10:20    Lecture Hall
Chair: Amit Savaia

09:00  Amit Savaya, Sharon Moscovitz, Eliahu D. Aflalo, Hanoch Glassner, Amir Sagai  
BIOCONTROL OF DISEASE-CAUSING SNAILS USING MONO-SEX PRAWNS

09:20  Sharon Moscovitz, Roussel Moise Wokam Njomgang, Hanoch Glassner, Eliahu D. Aflalo, Amir Sagai, Ofer Ovadia  
PINPOINTING POTENTIAL BIOCONTROL PATCHES IN FRESHWATER SYSTEMS: REGIONAL MODELING OF PARASITES AND PARASITE-CARRYING SNAILS

09:40  Shahid Mahboob Rana, Zubair Ahmed, Muhammad Farooq, Promy Virik, Norah A Al-Mulhm, Almohannad A.A. Baabbad  
ASSESSMENT OF HEAVY METALS POLLUTION IN SEAWATER AND SEDIMENTS IN THE ARABIAN GULF, NEAR DAMMAM, SAUDI ARABIA

10:00  Hiam Elabd, Hong Yao, Adel Shaheen, Amany Abbass, Han-Ping Wang  
DIFFERENT REARING ENVIRONMENTAL TEMPERATURES MODULATES GROWTH, ANTIOXIDATIVE, IMMUNE AND GENE EXPRESSION RESPONSES IN BLUEGILL SUNFISH Lepomis macrochirus
FRESH / BRACKISH AQUACULTURE
Tuesday, December 14  09:00 - 12:00  Room C
Chair: Awad Mohamed

09:00  Akeem Dauda, Zainab Bashir, Joseph Ikpe
INFLUENCE OF WATER CHANGING FREQUENCY ON GROWTH PERFORMANCE AND NUTRIENT UTILISATION OF TROPICAL FISH SPECIES

FIRST COMMERCIAL TRIAL OF IN-POND RACEWAY SYSTEM AQUACULTURE TECHNOLOGY IN BANGLADESH WITH Labeo rohita

09:40  Rose Komugisha Basinya, Trong Q. Trinh, Masausto Sakala, Patience Chungu, Tom Malambo, Buumba Hampuwo, Alexander Shula Kefi, John A.H. Benzie
PERFORMANCE EVALUATION OF TILAPIA SPECIES: THE CASE OF Oreochromis niloticus AND Oreochromis andersonii IN ZAMBIA

10:00  Rameshwar V. Bhosle
CULTURE POTENTIALITY OF GIFT TILAPIA BY UTILIZING LOW SALINE WATERS IN INDIA

10:40  Olamide Adeosun, Dominic. Olaniyi Odulate, Festus Idowu Adeosun, Oluwatozin Bukumis Onireiti, Victoria Olajumoke Soyoye
PHENOTYPIC CHARACTERIZATION AND NATURAL DIET OF Chrysichthys nigrodigitatus IN EPE LAGOON, LAGOS STATE, SOUTHWEST, NIGERIA

11:00  Mohamed Awad, Malik Khalafalla, Riad Khalil, Radi Mohamed
EFFECT OF FERMENTED FEED ON THE GROWTH PERFORMANCE, HEALTH CONDITION AND IMMUNE RESPONSE OF WHITELEG SHRIMP L. vannamei

ECOLOGY, BIODIVERSITY, MORPHOLOGY
Tuesday, December 14  09:00 - 10:20  Delegate's Hall
Chair: Jere Arthertone

09:00  Abubakar Usman, Kiran Dube, S.P. Shukla, Pramod Salaskar, P.B. Sawant, D.A. Nakhawa
REMOTE SENSING OF CHLOROPHYLL-A AND TSM AS A MEASURE OF PRODUCTIVITY USING SENTINEL-2A IN POWAI LAKE FOR AQUACULTURE

09:20  Arthertone Jere, Wilson W.L. Jere, Austin Mtethiwa, Daud Kassam
BREEDING PATTERN OF Oreochromis niloticus (LINNAEUS, 1758) (PISCES: CICHLIDAE) VERSUS NATIVE CONGENERIC SPECIES Oreochromis macrochir (BOULINGER, 1912) IN THE UPPER KABOMPO RIVER, NORTHWEST OF ZAMBIA

09:40  Oluayo Bello-Oluseji, Damilola Ayinla
ECOLOGY ASPECTS OF WEST AFRICAN FRESHWATER CRAB S. africanus IN THREE SELECTED FRESHWATERS IN AKURE METROPOLIS (NIGERIA)
09:00 Christian Ayisi Larbi, Elliot Haruna Alhassan, Abubakar Abdul Mutalib
EFFECTS OF PROBIOTICS Bacillus subtilis 200 ON GROWTH, FEED UTILIZATION AND PROXIMATE COMPOSITION OF AFRICAN CATFISH Clarias gariepinus

09:20 Alkhateib Y. Gaafar, Yasmeen Elbarbary, Abdelgayed Younes, Asmaa Galal-Khallaf, Khaled Mohammed-Geba
Bacillus clausii: A NEW EFFICACIOUS IMMUNE-STIMULANT, GROWTH PROMOTANT, AND ANTIOXIDATIVE PROBIOTIC FOR THE WHITE-LEG SHRIMP Litopenaeus vannamei CULTURE

09:40 Amany Abbass, Mohamed Abdel Gayed, Hiam Elabd, Mohamed Tageldin
DIETARY INCORPORATION OF ZADO® Ruminococcus flavefaciens PROBIOTIC ENHANCES HEMATOLOGY, IMMUNE, SERUM PROTEINS, AND GROWTH RESPONSES OF NILE TILAPIA Oreochromis niloticus

10:00 Radi Mohamed, Mahmoud Eltholth, Foad Farrag, Marwa Abd El-Kader, Ahmad Hamza, Fatma Abouelenien
EFFECTIVENESS AND COST-BENEFIT OF IN WATER PROBIOTICS IN TILAPIA FARMING: ON FARM TRIAL

10:40 Ajangale Nelly Isyagi, Irene Naigaga, Mugimba Kizito, David Kahwa, Sophia Nagadya, Susan Nakayiza
INTERVENTIONS TO REDUCE DRIVERS OF BACTERIAL FISH DISEASES IN AQUACULTURE PRODUCTION SYSTEMS THROUGH MULTI-STAKEHOLDER COLLABORATION

11:00 Rodolfo E. del Rio-Rodriguez, Amelia I. Paredes-Trujillo, Jaime Navarro-Flores, Monica I. Gomez-Solano, Mariana de J. Huchin-Cortes
PATHOGENS AND DISEASE EXPERIENCES IN THE AQUACULTURE OF THE YUCATAN PENINSULA, MEXICO
10:40 Hanno Slawski  
FIT FOR GROWTH: FEED FOR INTENSIVE FARMING OF AFRICAN CATFISH Clarias gariepinus

11:00 Oluyemi Gbadamosi, Precious Amarachi Jacobson, Bernadine Wunmi Obe  
EFFECTS OF DIETARY SELENIUM NANO PARTICLES ON THE GROWTH PERFORMANCE OF AFRICAN CATFISH Clarias gariepinus

11:20 Ayodeji Adeoye, Femi Fawole, Yemi Akegbejo-Samsons, Yunus Raheem  
DIETARY EFFECTS OF EXOGENOUS PHYTASE ON AFRICAN CATFISH Clarias gariepinus FED FISHMEAL-FREE DIET

11:40 Johnpaul C. Ikwumesi, Emmanuel K. Ajani, Benjamin O. Emikpe, Anthony A. Nlewadim  
SURVIVAL AND SOME PRO AND ANTIOXIDANTS ACTIVITIES OF Clarias gariepinus FRY FED STRAINS OF Lactobacillus fermentum SUPPLEMENTED DIET CHALLENGED WITH Aeromonas hydrophila

12:00 Ayokanmi A. Dada, Israel O. Oke, Abiola Adebayo  
EVALUATION OF LEMON GRASS Cymbopogon citratus AS PHYTO-ADDITIVE IN THE DIET OF AFRICAN CATFISH Clarias gariepinus FINGERLINGS

AQUACULTURE DEVELOPMENT - CONTINUED  
Tuesday, December 14  10:40 - 12:00  Small Theatre  
Chair: Salah Mesalhy Aly

10:40 Daroomalingum Mauree, Pierre Phillipe Blanc  
REVIEW OF AQUACULTURE, GOVERNANCE AND DEVELOPMENT OF SMALL-SCALE AQUACULTURE IN THE IORA REGION

11:00 Mosunmola Lydia Adeleke, Precious Sam-Aluko  
SOCIO-ECONOMIC STRUCTURES OF FISH FARMERS AND GEOSPATIAL MAPPING OF SOME SELECTED FISH FARMS IN AKURE NORTH LOCAL GOVERNMENT AREA, ONDO STATE, NIGERIA

11:20 Edith Gondwe, Abigail Bennett, Emma Rice, Park Muhonda  
SETTING SMALL SCALE FISHERIES IN FOOD AND NUTRITION SECURITY THEMES: ASSESSING CURRENT TRENDS IN SUB SAHARAN AFRICA

11:40 Christopher Mulanda Aura  
A GIS-BASED APPROACH TO DELINEATING THE AREAS OF A LAKE THAT ARE SUITABLE FOR CAGE FISH CULTURE

12:00 James Njiru, Jonathan Munguti, Christopher Aura, Kelvin Obiero, Gladys Mwaka, Paul Orina, David Mirera  
COULD AQUACULTURE BE THE SILVER BULLET FOR KENYA FISHERIES GROWTH?
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<th>Time</th>
<th>Speaker(s)</th>
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<tr>
<td>10:40</td>
<td>Hlulani A. Hlungwani, Joseph Sara, Sean Marr, Olaf Weyl</td>
<td>THE ECOLOGY AND BIOLOGY OF <em>Oreochromis mossambicus</em> TO INFORM INLAND FISHERIES DEVELOPMENT IN LAKE FLAG BOSHIELO, SOUTH AFRICA</td>
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<td>11:00</td>
<td>Fertin Lucas, Slembrouck Jacques, Avarre Jean-Christophe</td>
<td>AGROECOLOGY FOR SUSTAINABLE AQUACULTURE IN A CONTEXT OF GLOBAL CHANGES – ASACHA GDRI SUD (2021 - 2025)</td>
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<td>11:20</td>
<td>Delphine Lethimonnier, Barbara Bentz, Joël Niamien, Thimoté Niamien, etc.</td>
<td>INTEGRATED AQUACULTURE IN WEST AFRICA: AN ECOLOGICAL INTENSIFICATION LED BY FAMILY FARMERS IN A MARKET-ORIENTED STRATEGY</td>
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<td>11:40</td>
<td>Jean-Michel Mortillaro, Lionel Dabbadie, Andoniaina E. Raminoharisoa, etc.</td>
<td>TROPHIC FUNCTIONING OF INTEGRATED RICE-FISH FARMING IN MADAGASCAR: INSIGHTS FROM STABLE ISOTOPES (d13C &amp; d15N)</td>
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<td>12:00</td>
<td>Nasser Kasozi, Horst Kaiser, Brendan Wilhelm</td>
<td>EFFECT OF <em>Bacillus</em> SPECIES ON LETTUCE GROWTH AND ROOT ASSOCIATED BACTERIAL COMMUNITY IN A SMALL-SCALE AQUAPONIC SYSTEM</td>
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**FAO EGYPTIAN BIOSECURITY SPECIAL SESSION**

Tuesday, December 14 13:40 - 15:40  Multiple Purpose Room  
Chair: Ahmed Almazrouai, Mortada Hussein

- **Biosecurity on the Farm level**  
  Dr. Souad Sabry Abd El-Hamid Salama  
  Senior Researcher, Quality Inspector, Quality Manger & Internal Auditor  
  Fish Diseases Research Department

- **The usage of veterinary drugs in Aquaculture in Egypt: Practice and Legal issues**  
  Dr. Abdel-Fattah Mohammed Aly  
  Head of pharmacology Dept. Veterinary college  
  Suez Canal University

- **Contribution towards biosecurity establishment of Egyptian marine aquaculture: I. Zone surveillance of marine streptococcus in Dibah triangle, Damietta Governorate, Lower Egypt**  
  Ahmed M. A. Osman  
  Assistant Researcher, Animal Health Research Institute (AHRI) & Manager of Port Said Marine Fish Hatchery

- **Biosecurity application, follow-up and control in aquaculture projects - Saudi Arabia Case**  
  Hesham Abdulla Baabbad  
  Technical Director, Saudi Aquaculture Society