FRIDAY, February 22

OPENING & PLENARY
Friday, February 22  8:30 - 10:00  Room 205

8:30  OPENING

9:30  Edward Allison
AQUACULTURE IN A CHANGING CLIMATE

10:00 BREAK

FEEDS AND FEEDING FOR SUSTAINABLE HATCHERY PRODUCTION
Friday, February 22  11:00 - 12:30  Room 102
Chair: Ann Gannam

Sponsor: Alltech

11:00  Ann L. Gannam, Ronald G. Twibell, Susan L. Ostrand
EFFECTS OF DIETARY GUAR GUM ON GROWTH RESPONSE, FECAL STABILITY
AND FECAL PHOSPHORUS EXCRETION IN JUVENILE COHO SALMON
Oncorhynchus kisutch

11:15  Ronald Twibell, Ann Gannam, Heidi Hill, James Barron, Nathan Hyde,
Todd Pearsons
DEVELOPMENT OF LOW PHOSPHORUS AND LOW LEACHING FEEDS FOR SPRING
CHINOOK SALMON Oncorhynchus tshawytscha
11:30  Alejandro Villasante, Patro Biswamitra, Boon Chew, Andreas Brezas, Michael Becerra, Madison Powell, Ronald Hardy
DIETARY PURPLE CORN EXTRACT AFFECTS PLASMA ANTIOXIDANT POTENTIAL AND LIPID RETENTION IN RAINBOW TROUT *Oncorhynchus mykiss*

11:45  James M. Barron, Ronald G. Twibell, Heidi A. Hill, Kyle C. Hanson, Ann L. Gannam
EXPERIMENTAL DIETS FOR INTENSIVE CULTURE OF PACIFIC LAMPREY *Entosphenus tridentatus* AMMOCOETES

**STUDENT SPOTLIGHT PRESENTATIONS:**
**HIGHLIGHTING AWARD WINNING STUDENTS**
Friday, February 22  11:00 - 11:30  Room 204
Chair: Chris Green

11:00  Three students with the top abstracts from each group (NSA, WAS, and FCS) will be presenting an abbreviated version (5 minutes) of their full 15 minute talk.

**STURGEON**
Friday, February 22  11:00 - 12:30  Room 202
Chairs: Doug Aloisi, Andy Lazur

11:00  Dana Wetzel, John Reynolds
USE OF NOVEL BIOMARKERS TO DETERMINE SEX OF VERY YOUNG STURGEON TO ENHANCE PRODUCTION EFFICIENCY AND CONSERVATION: CASE STUDIES WITH SIBERIAN AND LAKE STURGEON

EFFECT OF HYPOTHERMIC STORAGE ON CAPTIVE ATLANTIC STURGEON SPERM

11:30  Brian Small, Elliott Kittel, Carlin Fenn, Lucas Nelson
INVESTIGATIONS INTO *Scaphirhynchus* STURGEON CULTURE

11:45  Orey Eckes, Doug Aloisi
EFFECT OF INCUBATION TEMPERATURE ON EGG AND LARVAL DEVELOPMENT: ESTABLISHMENT OF A DEVELOPMENTAL INDEX FOR LAKE STURGEON *Acipenser fulvescens*

12:00  Kenneth J. Sulak, Michael T. Randall, James P. Clugston
EVALUATION OF SURVIVAL OF HATCHERY-REARED GULF STURGEON RELEASED INTO THE SUWANNEE RIVER, FLORIDA: A 19-YEAR FOLLOW-UP ANALYSIS

12:15  Douglas B. Aloisi
DESIGN OF STREAMSIDE REARING UNITS TO RECOVER RIVER SPECIFIC STRAINS OF LAKE STURGEON *Acipenser fulvescens*
INTEGRATING MOLECULAR AND CELLULAR APPROACHES TO THE IMPROVEMENT OF AQUACULTURE SPECIES

Friday, February 22     11:00 - 12:30     Room 203
Chairs: Benjamin Beck, Adam Fuller

11:00 Maria Célia Portella, Natalia de Jesus Leitao, Caroline Nebo, Thiago Mendes de Freitas, Juliana Tomomi Kojima, Konrad Dabrowski
THE EFFECT OF HYPOXIA AND HYPEROXIA ON RESPIRATORY BEHAVIOR AND GILLS ELEMENTS OF PIRARUCU Arapaima gigas JUVENILES

11:15 Ahmed Mustafa, Mohammed Rumman Hossain
PUERARIN: FROM THE ROOTS OF KUDZU, AN INVASIVE PLANT, TO THE FRONT LINES IN MODULATING STRESS IN FISH

11:30 Zongli Yao, Qifang Lai, Kai Zhou, Hui Wang
TRANSCRIPTOMIC EVOLUTION UNDER SALINE-ALKALI ENVIRONMENT IN PRZEWALSKI’S NAKED CARP

11:45 Eric Peatman, Chao Li, Ruijia Wang, Fanyue Sun, Zhanjiang Liu, Bradley Farmer, Benjamin Beck
MUCOSAL PROFILES OF RESISTANCE AND SUSCEPTIBILITY TO Flavobacterium columnare USING RNA-SEQ APPROACHES

12:00 Benjamin Beck, Bradley Farmer, David Straus, Chao Li, Eric Peatman
RHAMNOSE BINDING LECTINS INFLUENCE Flavobacterium columnare PATHOGENESIS IN CHANNEL CATFISH Ictalurus punctatus

12:15 Adam Fuller, Benjamin Beck
ADMINISTRATION OF KISSPEPTINS ACCELERATES GONADAL DEVELOPMENT AND ALTERS GENE EXPRESSION IN MORONIDS

ALGAE: MACRO AND MICRO

Friday, February 22     11:00 - 12:30     Room 103
Chair: Wilson L. Tisera
Sponsor: Alltech®

11:00 Rick Johnson
THE APPLICATION OF ALGAE PRODUCTION AS AN ADVANCED WATER MANAGEMENT TECHNOLOGY IN SUPPORT OF SUSTAINABLE AQUACULTURE

11:15 Anthony J. Siccardi III, Paul V. Zimba, Zack B. Fuqua, Marci D. Durocher, Jonathan G. Bennett, Marci L. Savage, Cristina M. Richardson, Tzachi M. Samocha
EFFECT OF SEASONAL VARIATION ON BIOMASS AND LIPID PRODUCTION OF MONO AND MIXED CULTURES OF Nannochloropsis salina AND Phaeodactylum tricornutum IN OUTDOOR RACEWAYS USING NATURAL SEAWATER IN CORPUS CHRISTI, TEXAS

11:30 Mohammad Matinfar, Yong-Ki Hong
OPTIMAL CONDITIONS FOR TISSUE GROWTH AND BRANCH INDUCTION OF Gracilariopsis persica
11:45 Qifang Lai, Xiaowei Li, Zongli Yao, Kai Zhou, Tingting Lin
PHYSIOLOGY AND BIOCHEMICAL RESPONSE OF *Gracilaria tenuistipitata* IN HIGH CONCENTRATIONS OF BICARBONATE

12:00 Wilson Tisera, Hilconida Calumpong, Maria Rio Naguit
THE DOMINANCE OF TETRASPORIC *Kappaphycus alvarezi* (Doty) Doty AND *Eucheuma denticulatum* (Burman) Collins and Harvey CULTIVARS IN PHILIPPINE FARMS AND ITS OBSERVED RESISTANCE TO ICE-ICE DISEASE

12:15 Keith Filer
APPLICATION OF MICORALGAE IN AQUACULTURE DIETS

**DOWN ON THE FARM: IMPROVING SHELLFISH AQUACULTURE PRODUCTION**
Friday, February 22  11:00 - 3:00  Room 201
Chair: Bill Walton, Ana Rubio

11:00 Kevin Landry, F. Scott Rikard, Tyler Meyers, William C. Walton
PERFORMANCE OF UPWELLER VERSUS FIELD BAG NURSERY SYSTEMS FOR REARING OYSTER SEED *Crassostrea virginica*

11:15 Ana Rubio, Chelsea Nash
AN INNOVATIVE OYSTER MONITORING PROGRAM TO QUANTIFY OYSTER PERFORMANCE AND SURVIVAL

11:30 Julie E. Davis, William C. Walton
EFFECTS OF STOCKING DENSITY AND BASKET ORIENTATION WHEN USING THE ADJUSTABLE LONGLINE SYSTEM FOR OYSTER GROW-OUT: MEASURES OF PRODUCTION

11:45 Justin Leonhardt, John Supan, Jerome La Peyre
AN INDUSTRY IN DECLINE: FINDING THE OPTIMAL OYSTER STOCK AND IDEAL SALINITY CONDITIONS FOR INTENSIFYING COMMERCIAL PRODUCTION OF LOUISIANA OYSTERS *Crassostrea virginica*

12:00 Jerome La Peyre, Sandra Casas, William Walton, Glen Chaplin, Scott Rikard, John Supan
EVALUATION OF GULF COAST OYSTERS *Crassostrea virginica* SELECTED FOR DERMO RESISTANCE AND WILD OYSTERS FOR COMMERCIAL PRODUCTION IN ALABAMA ESTUARIES

12:15 Megan E. Gima, Lisa Bourassa, Justin Leonhardt, Erin Leonhardt, John Supan
TETRAPLOID AMERICAN OYSTER *Crassostrea virginica* BROODSTOCK DEVELOPMENT FOR THE GULF OF MEXICO REGION

12:30 LUNCH

1:30 William Walton, Chris Nelson, Mona Hochman, John Schwarz
EFFECTIVENESS OF TRANSPLANTING AS A PROCESS FOR REDUCING LEVELS OF *Vibrio vulnificus* AND *V. parahaemolyticus* IN SHELLSTOCK OYSTERS

1:45 Erin Leonhardt, Patrick Banks, John Supan
IS PLANTING HATCHERY-PRODUCED SPAT AND LARVAE ON LOUISIANA PUBLIC OYSTER GROUNDS MORE EFFECTIVE THAN PLANTING CULTCH?
2:00 John Scarpa, Shirley M. Baker, Leslie N. Sturmer, William Krebs
PREPARING FOR CLIMATE CHANGE: INCREASING HARD CLAM SURVIVAL IN FLORIDA USING BIOMARKERS OF THERMAL TOLERANCE

2:15 Diane Murphy, Joshua Reitsma
INVESTIGATING POTENTIAL FOR RAZOR CLAMS *Ensis directus* TO AUGMENT FARM PROFITABILITY: A CASE STUDY IN MASSACHUSETTS

2:30 Sandra Macfarlane, Gef Flimlin
DEVELOPING AN INDIVIDUAL FARM PLAN FOR EAST COAST SHELLFISH GROWERS

**INVASIVES**
Friday, February 22    11:00 - 3:30    Room 104
Chairs: David Wong, Stephan Bullard

11:00 David Bruce Conn, Denise Andriot Conn, Thaddeus K. Graczyk
INVASIVE FRESHWATER MOLLUSCS AS SENTINEL BIOMONITORS TO PREDICT MOVEMENT OF EURYHALINE HUMAN-INFECTIOUS PATHOGENS INTO ESTUARINE MOLLUSC AQUACULTURE SITES

11:15 G. Chris Holdren
SPREAD AND ABUNDANCE OF QUAGGA MUSSEL VELIGERS IN LAKE MEAD, NEVADA-ARIZONA, AND OTHER WESTERN RESERVOIRS

11:30 Denise M. Hosler
EARLY DETECTION IMPROVEMENTS IN THE RECLAMATION MUSSEL PROGRAM

11:45 Ashlie Watters, Shawn Gerstenberger, Wai Hing Wong
EVALUATING THE EFFICACY OF QUATERNARY AMMONIUM COMPOUNDS FOR WILDLAND FIREFIGHTING EQUIPMENT EXPOSED TO DREISSENE ADULTS AND VELIGERS

12:00 David Wong, Mike Misamore, Jackson Gross
CULTURE AND GROWTH OF LABORATORY SPAWNEO QUAGGA MUSSEL VELIGERS IN LAKE MEAD HATCHERY

12:15 Stephan Bullard, Maria Rosa, Bridget Holohan, Gary Wikfors, Steve Morton, Tessa Getchis, Sandra Shumway
BIOFOULING ASCIDIANS ON AQUACULTURE GEAR AS POTENTIAL VECTORS OF HARMFUL ALGAL INTRODUCTIONS

12:30 LUNCH

1:30 Katie McFarland, Fred Jean, Jonathan Flye-Sainte-Marie, Julien Thébault, Aswani Volety
SEASONAL VARIATION OF GROWTH, GAMETOGENESIS AND BIOCHEMICAL COMPOSITION OF THE INVASIVE GREEN MUSSEL *Perna viridis* IN ESTERO BAY, FLORIDA

1:45 Youji Wang, Menghong Hu, Weiqun Lu, Jiale Li
ANTI-PREDATORY RESPONSES OF THE GREEN-LIPPED MUSSEL *Perna viridis* UNDER HYPOXIA AND LOW SALINITY
FRIDAY

2:00 **Sandeep K. Malhotra**, Neeshma Jaiswal, Anshu Malhotra
STRATEGIES OF BIOINVASION A FALLOUT OF CLIMATE CHANGE

2:15 **Mark Gaikowski**, Jon Amberg, Sunnie McCalla
UNDERSTANDING THE IMPORTANCE OF BIRDS AS VECTORS OF eDNA:
IMPLICATIONS FOR MANAGEMENT AGENCIES AND AQUACULTURE

SHRIMP NUTRITION
Friday, February 22     11:00 - 5:30     Room 205
Chairs: Alberto Nunes, Daniel Lemos

Sponsor: Novus

11:00 **D. Allen Davis**, Yan-Gen Zhou, Fabio Soller D. Silva, Julio M. Achupallas,
Xiaoyun Fang, Melanie A. Rhodes
ADVANCES IN SHRIMP NUTRITION AND FEEDING

11:45 Xiaoyun Fang, Bochao Hu, D. Allen Davis
REPLACEMENT OF SOYBEAN MEAL BY CORN GLUTEN MEAL AND CORN PROTEIN
CONCENTRATE IN PACIFIC WHITE SHRIMP *Litopenaeus vannamei* DIETS

12:00 **Andreas Lemme**, Cláudia Figueiredo-Silva, Christoph Klobler
PROGRESS IN AMINO ACID NUTRITION OF SHRIMP

12:30 LUNCH

1:30 **Albert Tacon**, Daniel Lemos
OVERVIEW OF RESEARCH NEEDS IN SHRIMP FEEDS AND FEEDING

2:00 Denghang Yu, Xiaoyun Fang, Bochao Hu, D. Allen Davis
APPARENT DIGESTIBILITY OF DIFFERENT PLANT INGREDIENTS FOR THE PACIFIC
WHITE SHRIMP *Litopenaeus vannamei*

2:15 **Rodrigo Carvalho**, Ricardo Ota, Vivian Kadry, Albert Tacon, Daniel Lemos
EVALUATION OF THE APPARENT DIGESTIBILITY OF PROTEIN, ENERGY AND
AMINO ACIDS OF SIX PROTEIN SOURCES AT THREE INCLUSION LEVELS FOR
JUVENILE WHITE SHRIMP *Litopenaeus vannamei* IN HIGH PERFORMANCE
CONDITIONS

2:30 Xiaoyun Fang, Bochao Hu, D. Allen Davis
POTENTIAL OF NEW CULTIVARS OF SOYBEAN MEAL IN PRODUCTION DIETS FOR
THE PACIFIC WHITE SHRIMP *Litopenaeus vannamei*

2:45 Yan-Gen Zhou, Xiaoyun Fang, D. Allen Davis, Akinbode A. Adedeji, Sajid Alavi
GROWTH OF JUVENILE PACIFIC WHITE SHRIMP *Litopenaeus vannamei* FED DIETS
CONTAINING DIFFERENT LEVEL OF SORGHUM CO-PRODUCT (DDGS) USING
EXTRUSION AND PELLETING METHODS

3:00 **Andrew Logan**, Albert Tacon
A NOVEL BACTERIAL SINGLE CELL PROTEIN INGREDIENT FOR USE IN SHRIMP
FEEDS AND AQUAFEEDS
3:15 Mahbuba Bulbul, Md. Abdul Kader, Shunsuke Koshio, Manabu Ishikawa, Saichiro Yokoyama
EFFECT OF REPLACING FISHMEAL WITH CANOLA MEAL ON GROWTH AND NUTRIENT UTILIZATION IN KURUMA SHRIMP Marsupenaeus japonicus (BATE)

3:00 BREAK

4:00 Craig Browdy, Ei Lin Ooi, Minh Anh Pham, Anant Bharadwaj
HEALTH THROUGH NUTRITION: ALTERNATIVE METHODS FOR CONTROLLING PRIMARY AND SECONDARY BACTERIAL PATHOGENS IN SHRIMP FARMING

4:30 Fady Michael, Shunsuke Koshio
DIETARY CHOLINE IMPROVES THE STRESS TOLERANCE AGAINST FRESH WATER AND FORMALIN IN POST LARVAL KURUMA SHRIMP Marsupenaeus japonicus

4:45 Yan-Gen Zhou, D. Allen Davis, Rebecca Cook, Melanie A. Rhodes
RESPONSE OF JUVENILE PACIFIC WHITE SHRIMP Litopenaeus vannamei TO DIETARY SUPPLEMENTATION WITH COPPER SULFATE OR TRIBASIC COPPER CHLORIDE

5:00 Thomas R. Wilson
AN OVERVIEW OF THE SHRIMP FARMING AND SHRIMP FEED MANUFACTURING INDUSTRIES IN THAILAND

ZEBRAFISH HUSBANDRY WORKSHOP
Friday, February 22  1:30 - 5:30  Room 109
Chair: Bobbi Baur
Sponsors: Aquaneering, Zebra Husbandry Association

1:30 Mark Francis, Lauren Pandolfo, Katrina Murray
Introduction

1:45 Arthur Popper
EARS, HEARING (AND ZEBRAFISH)

2:15 Arthur Popper
ACOUSTICS AND ZEBRAFISH REPRODUCTION

2:40 TBD

3:00 BREAK

3:30 Christine Lieggi, Punita Koustubhan, Julia Krout, Neil Lipman
OVERVIEW OF A CENTRALLY MANAGED BI-INSTITUTIONAL AQUATICS PROGRAM

3:50 Alhad Mahagaonkar
EFFICIENT WAYS TOWARDS A BETTER ZEBRAFISH FACILITY

Fish Diseases – Part 1 – Moderator: Michael Kent
4:15 John Hawke, Elise Desonier, Judy Bennett, Katy Murray, Robert Wagner, Michael Kent
EFFICACY OF MEDICATED FEED TREATMENTS FOR E. ictaluri INFECTIONS IN ZEBRAFISH
4:30  Robert Wagner  
PRELIMINARY EVIDENCE WITH PANACUR FOR TREATING MICROSPORIDIA

4:45  Justin Sanders, Virginia Watral, Michael Kent  
TRANSMISSION CHARACTERISTICS OF Psuedoloma neurophilia IN THE ZEBRAFISH Danio rerio

5:00  Colleen E. Paquette, Michael L. Kent, Cari Buchner, Robert L. Tanguay, Karen Guillemin, Timothy J. Mason, Tracy S. Peterson  
A DESCRIPTIVE PROFILE OF INTESTINAL NEOPLASIA IN LABORATORY ZEBRAFISH Danio rerio

5:15  Virginia Watral  
*Pseudoloma* HOST SUSCEPTIBILITY

**STOCK ENHANCEMENT**

Friday, February 22  11:00 - 5:30  Room 209  
Chairs: Ken Leber, Kai Lorenzen

11:00  Kenneth M. Leber  
MARINE FISHERIES ENHANCEMENT: COMING OF AGE IN THE NEW MILLENNIUM

11:30  Michelle L. Walsh  
FITTING MARINE STOCK ENHANCEMENT INTO THE FEDERAL FISHERIES MANAGEMENT FRAMEWORK

11:45  Refik Orhun, Joseph Serafy  
“RESPONSIBLE REPORTING” IN U.S. MARINE FISHERIES STOCK ENHANCEMENT RESEARCH

12:00  Kai Lorenzen, Taryn Gainer, Christopher T. Monk, Kenneth M. Leber  
PRIORITYzing CANDIDATE STOCKS FOR RECREATIONAL FISHERIES ENHANCEMENT IN FLORIDA

12:15  Elizabeth A. Fairchild  
COMMUNITY-BASED STOCK ENHANCEMENT: REARING AND RELEASING WINTER FLOUNDER *Pseudopleuronectes americanus* IN AQUINNAH, MASSACHUSETTS

12:30  LUNCH

1:30  Reginald Blaylock, Jeffrey Lotz, Eric Saillant  
THE SEATROUT POPULATION ENHANCEMENT COOPERATIVE (SPEC): AN EXAMPLE OF A MULTI-AGENCY PARTNERSHIP FOR STOCK ENHANCEMENT IN MISSISSIPPI

1:45  Karl Brenkert, Tim O'Donnell, Tanya Darden, Michael Denson  
A SMALL SCALE STOCK ENHANCEMENT STUDY FOR SPOTTED SEATROUT *Cynoscion nebulosus* IN SOUTH CAROLINA

2:00  Kai Lorenzen  
SIZE- AND DENSITY-DEPENDENT PROCESSES AND OPTIMAL STOCKING SIZE

2:15  Michelle L. Walsh  
CONDITIONING FLATFISH FOR STOCK ENHANCEMENT: GLOBAL PROGRESS AND PITFALLS
2:30 Paula Caldentey, Nathan Brennan, Kevan Main, Ken Leber
IMPROVING POST-RELEASE SURVIVAL OF CULTURED JUVENILE COMMON SNOOK Centropomus undecimalis THROUGH HATCHERY CONDITIONING

2:45 Karl Brenkert, Tanya Darden, Daniel Farrae, Michael Denson
EVALUATING THE POTENTIAL FOR RE-ESTABLISHING A POPULATION OF STRIPED BASS Morone saxatilis IN AN EXTIRPATED COASTAL RIVER IN THE SOUTHEASTERN ATLANTIC

3:00 Kai Lorenzen, Christopher Anderson, Nicholas Cole, JoEllen King, Carrie Schuman, Zachary Slagle, Jessica Sutt
ANGLER ATTITUDES TO LARGEMOUTH BASS Micropterus salmoides STOCKING IN FLORIDA

3:15 Andrew Anderson, Michael Denson, Tanya Darden
PAST AND PRESENT GENETIC STRUCTURE OF STRIPED BASS Morone saxatilis IN THE CAROLINAS

3:30 Carly R. Somerset, Eric A. Saillant
DEVELOPMENT OF A GENETIC MONITORING PROGRAM FOR STOCK ENHANCEMENT OF MISSISSIPPI SPOTTED SEATROUT Cynoscion nebulosus

3:45 Allan Strand, Tanya Darden, Michael R. Denson
GENETIC IMPACTS OF STOCKING: AN INDIVIDUAL-BASED SIMULATION APPROACH TO MODELING STRIPED BASS STOCK ENHANCEMENT

4:00 Taryn Gainer, Christopher Monk, Colette St. Mary, Kai Lorenzen
HATCHERY EFFECTS ON FLORIDA LARGEMOUTH BASS Micropterus salmoides floridanus PERSONALITY, RESOURCE ALLOCATION AND SURVIVAL UNDER PREDATION

4:15 Michael Denson, Justin Yost, Matt Walker, Tanya Darden, Karl Brenker
STOCK ENHANCEMENT OF A MARINE COASTAL MIGRATORY PELAGIC COBIA Rachycentron canadum IN PORT ROYAL SOUND, SOUTH CAROLINA

4:30 Discussion
QUESTIONS AND DISCUSSIONS

4:45 Discussion
TOPICS AND FOCUS AREAS NEEDED FOR FUTURE RESEARCH AND DEVELOPMENT

IMTA / INTEGRATED AQUACULTURE
Friday, February 22  11:00 - 5:30  Room 206
Chair: Shawn Robinson

11:00 Amir Neori, Ana M Nobre
IMTA ALLOWS LARGE SUSTAINABLE AND PROFITABLE EXPANSION IN FOOD SUPPLY DURING GLOBAL WARMING

11:30 Muki Shpigel, David Ben Ezra, Amir Neori, Lilach Shauli, Tomer Ben Ari
COST AND BENEFIT OF INTEGRATED MULTI-TROPHIC MARICULTURE SYSTEMS: AN ECOLOGICAL APPROACH FOR A SUSTAINABLE AQUACULTURE
11:45 **Kenneth Black**, Adam Hughes  
*IDREEM: WHY IS IMTA NOT WORKING?*

12:00 **Barry Hill**  
*NEW BRUNSWICK, CANADA’S EXPERIENCE WITH THE DEVELOPMENT OF GOVERNANCE FOR IMTA*

12:15 **Michael Pietrak**, Sally Molloy, Deborah Bouchard, Ian Bricknell  
*DISEASE RISKS ON INTEGRATED MULTI-TROPHIC AQUACULTURE FARMS: RESHAPING DISEASE PARADIGMS*

12:30 **LUNCH**

1:30 **John Scarpa**, Matthew Russell, Federico Prahl, Amber Garr; Paul S. Wills  
*EXAMINING PARTICULATE UTILIZATION BY OYSTERS AND SEA URCHINS FOR A LAND-BASED INTEGRATED MULTI-TROPHIC AQUACULTURE SYSTEM*

1:45 **William D. Krebs**, Richard Baptiste, Susan E. Laramore  
*THE POTENTIAL UTILIZATION OF FISH WASTE TO FACILITATE AND MAINTAIN CARBON RATIOS IN AN INDOOR SHRIMP BIOFLOC CULTURE COMPONENT OF A LAND BASED INTEGRATED MULTITROPHIC AQUACULTURE SYSTEM*

2:00 **Paul Wills**, John Scarpa, Dennis Hanisak, Susan Laramore, Amber Garr, Megan Davis, Geoff Beiser  
*PROTOTYPE DESIGN FOR A NOVEL MARINE RECIRCULATING LAND-BASED INTEGRATED MULTI–TROPHIC AQUACULTURE SYSTEM*

2:15 **Charles Yarish**, Jang Kim  
*NUTRIENT BIOEXTRACTION BY *Gracilaria tikvahiae* AND *Saccharina latissima* IN LONG ISLAND SOUND AND THE BRONX RIVER ESTUARY*

2:30 **Scott Lindell**, Charles Yarish, Jang Kim, Emma Green-Beach, Molly Peach, Morgan Beals  
*MULTI-CROPPING SEAWEED *Gracilaria tikvahiae* WITH OYSTERS IN WAQUOIT BAY, MASSACHUSETTS*

2:45 **Sarah Redmond**, Dana Morse, Nick Brown, Paul Dobbins, Shep Erhart, Peter Fischer, Joe Larrabee, Tim Levesque, Matt Moretti, Carter Newell, Blaine Olsen, Virginia Olsen, Tollef Olson, Evan Young  
*A PILOT PROJECT TO STIMULATE SEAWEED PRODUCTION ON MUSSEL FARMS IN MAINE*

3:00 **Steve Cross**  
*IMTA IN BRITISH COLUMBIA*

3:15 **Jack Rensel**, Kevin Bright, Zachary Siegrist  
*EVALUATION OF MUSSEL-OYSTER-SALMON IMTA IN PUGET SOUND USING STABLE ISOTOPE TRACING*

3:30 **Gregor Reid**, Thierry Chopin, Shawn Robinson, Azevedo Paula, Quinton Margaret, Belyea Ellen  
*WEIGHT RATIOS OF THE KELPS *Alaria esculenta* AND *Saccharina latissima* REQUIRED TO SEQUESTER DISSOLVED INORGANIC NUTRIENTS AND SUPPLY OXYGEN FOR ATLANTIC SALMON *Salmo salar* IN INTEGRATED MULTI-TROPHIC AQUACULTURE SYSTEMS*
FRIDAY

3:45  Peter Cranford, Lindsay Brager
WASTE PARTICLE DYNAMICS ADJACENT TO FISH CAGES IN CANADA: IMPLICATIONS FOR THE DESIGN AND EFFICIENCY OF INTEGRATED FISH CAGE AND SUSPENDED BIVALVE CULTURE SYSTEMS

4:00  Joao G. Ferreira, Joao D. Lencart-Silva, Joao P. Nunes, Camille Saurel, Filipa Vazquez, Oivind Bergh, Nick Taylor, David Verner-Jeffreys
MOVING FORWARD WITH IMTA – INTERACTIONS BETWEEN AN OFFSHORE IMTA AQUACULTURE PARK AND AN INSHORE SHELLFISH PRODUCTION AREA, ANALYSIS THROUGH INTEGRATED ECOSYSTEM MODELLING

4:15  Gregor Reid, Shawn Robinson
ESTIMATING THE NET ORGANIC LOAD FROM CO-CULTURED ATLANTIC SALMON Salmo salar AND BLUE MUSSELS Mytilus edulis AT AN INTEGRATED MULTI-TROPHIC AQUACULTURE SITE

4:30  Scott Hadley, Karen Wild-Allen, Catriona Macleod, Craig Johnson
ALTERNATIVE STRATEGIES FOR SUSTAINABLE ENVIRONMENTAL MANAGEMENT OF NUTRIENT LOADS IN AQUACULTURE

4:45  Shawn Robinson, Andrew Cooper, Terralynn Lander, Gregor Reid, Craig Smith, Paul Robertson, Keng Ang, Thierry Chopin
UNDERSTANDING SOME OF THE WILD-FARMED SPECIES ECOLOGICAL INTERACTIONS THAT RESULT FROM THE ESTABLISHMENT OF AN INTEGRATED MULTI-TROPHIC AQUACULTURE SITE IN THE BAY OF FUNDY, CANADA

5:00  Thierry Chopin
INTEGRATED MULTI-TROPHIC AQUACULTURE: THE ORIGINS OF IMTA AND ITS CONCEPTUAL FLEXIBILITY AND ADAPTABILITY

BAITFISH
Friday, February 22   11:00 - 5:30   Room 110
Chairs: Chris Green, Cortney Ohs

11:00  Cortney Ohs, Matthew DiMaggio, Audrey Beany, Charles Adams
EVALUATION OF RECREATIONAL ANGLER PERCEPTION AND DEMAND FOR CULTURED MARINE BAITFISH IN FLORIDA

11:15  Matthew DiMaggio, Jason Broach, Cortney Ohs
EVALUATION OF OVAPRIM AND HUMAN CHORIONIC GONADOTROPIN DOSES ON SPAWNING INDUCTION AND EGG AND LARVAL QUALITY OF PIGFISH Orthopristis chrysoptera

11:30  Jason Broach, Cortney Ohs, Matthew DiMaggio, Geoff Wallat, Scott Grabe
EFFECTS OF EGG INCUBATION DENSITY ON LARVAL QUALITY AND MORPHOMETRICS FOR PINFISH Lagodon rhomboides AND PIGFISH Orthopristis chrysoptera

11:45  Jason Broach, Cortney Ohs, Matthew DiMaggio, Audrey Beany, Andrew Palau, Scott Grabe
EFFECTS OF COMMERCIAL ROTIFER ENRICHMENTS AND ROTIFER FEEDING DENSITY DURING LARVAL CULTURE OF PIGFISH Orthopristis chrysoptera
12:00 Matthew DiMaggio, Jason Broach, Cortney Ohs, Todd Sink
EFFECT OF STOCKING DENSITY ON GROWTH, SURVIVAL, AND STRESS PHYSIOLOGY OF PIGFISH Orthopristis chrysoptera

12:15 Matthew DiMaggio, Jason Broach, Cortney Ohs
EVALUATION OF OVAPRIM AND HUMAN CHORIONIC GONADOTROPIN DOSES ON SPAWNING INDUCTION AND EGG AND LARVAL QUALITY OF PINFISH Lagodon rhomboides

12:30 LUNCH

1:30 Cortney Ohs, Andrew Palau, Matthew DiMaggio, Jason Broach
EFFECTS OF VARIOUS SALINITIES AND TEMPERATURES ON HATCHING SUCCESS AND SURVIVAL OF LARVAL BALLYHOO Hemiramphus balao

1:45 Ronald Hoenig, Jorge Arturo Suarez, Daniel Benetti, John Stieglitz, Sasa Miralao, Zack Daugherty, Juan F. Sierra, Carlos Tudela, Mathew Taynor, Tyler Sclodnick, Grace Seo
BROODSTOCK MANAGEMENT, FINGERLING PRODUCTION AND NUTRITION OF TROPICAL MARINE FINFISH AT THE UNIVERSITY OF MIAMI EXPERIMENTAL HATCHERY

2:00 Dennis McIntosh, Kevin Coles
INVESTIGATION INTO THE USE OF A BIOFLOC BASED PRODUCTION SYSTEM TO REAR MUMMICHOG Fundulus heteroclitus FRY

2:15 Courtnay Janiak, Dennis McIntosh
EFFECT OF STOCKING DENSITY ON GROWTH AND SURVIVAL OF EARLY LIFE-STAGE MUMMICHOG Fundulus heteroclitus

2:30 Christopher Green, Paige O’Malley, Andrew Palau, Cortney Ohs, Louis D’Abramo, Christopher Green
FEEDING LARVAL GULF KILLIFISH Fundulus grandis: UTILIZING A TRANSITIONAL FEEDING REGIME OF LIVE AND ARTIFICIAL FEEDS

2:45 Joshua Patterson, Christopher Green
REPRODUCTIVE PERFORMANCE OF GULF KILLIFISH Fundulus grandis FED PLANT-BASED DIETS WITH VARYING INCLUSION OF CORN OIL AND FISH OIL

3:00 Shane Ramee, Peter J. Allen
EFFECTS OF LOW SALINITIES ON GULF KILLIFISH Fundulus grandis EGG HATCHING RATE AND LARVAL GROWTH

3:15 Calvin Fisher, Christopher Green
MANIPULATION OF THE DIVALENT IONS Ca2+ AND Mg2+ AND THEIR ROLE IN BIOCHEMICAL AND MOLECULAR HOMEOSTASIS IN LARVAL GULF KILLIFISH Fundulus grandis

3:30 Abigail Pflughoeft, Yass Kobayashi
IDENTIFICATION OF BRAIN-SPECIFIC AROMATASE (CYP 19B) GENE AND EXAMINATION OF ITS MRNA EXPRESSION IN VARIOUS TISSUES OF NORTHERN PLAINS KILLIFISH Fundulus kansae

3:45 Courtnay Janiak, Dennis McIntosh
EFFECT OF STOCKING AGE AND SALINITY ON GROWTH AND SURVIVAL OF EARLY LIFE-STAGE MUMMICHOG Fundulus heteroclitus
FRIDAY

4:00 Joshua T. Patterson, Robert C. Reigh, Calvin M. Fisher, Christopher C. Green
REPLACEMENT OF LIVE Artemia nauplii WITH COMMERCIAL DIETS AT FIRST FEEDING IN LARVAL GULF KILLIFISH Fundulus grandis AND SUBSEQUENT GROWTH EFFECTS OF DIETARY PROTEIN LEVEL

4:15 David L. Berlinsky
CULTURING RAINBOW SMELT AS A BAITFISH SPECIES FOR THE NORTHEAST UNITED STATES

4:30 Matthew DiMaggio, Mark Watson, David Berlinsky
RIVER HERRING CULTURE FOR MARINE BAITFISH MARKETS: PRELIMINARY INVESTIGATIONS

4:45 Rebecca Lochmann, Harold Phillips, Paxton Harper, Nathan Stone, Daryl Weldon, Alf Haukenes
EVALUATION OF SUPPLEMENTAL LOW-COST DIETS FOR GOLDEN SHINERS Notemigonus crysoleucas AT TWO DENSITIES

INNOVATIONS IN SECONDARY AND POSTSECONDARY AQUACULTURE TEACHING, TOOLS AND PROGRAMS FOR THE NEXT GENERATION WORKFORCE
Friday, February 22     11:00 - 5:30     Room 207
Chairs: Gary Jensen, L. Curry Woods III, David Cline

11:00 Gary L. Jensen, Thomas Broyles, Maxwell Mayeaux, Katie K. Rines, Michael H. Schwarz, Sandra Shumway, Jesse Trushenski, L. Curry Woods III
NATIONAL ASSESSMENT OF AQUACULTURE SUPPORTING EDUCATIONAL PROGRAMS AT POSTSECONDARY INSTITUTIONS IN THE USA

11:15 Susan Laramore, John Scarpa, Paul Wills, Ann McMullian
A FIFTEEN YEAR RETROSPECTIVE OF A PARTNERED AQUACULTURE EDUCATION PROGRAM: INDIAN RIVER STATE COLLEGE AND HARBOR BRANCH OCEANOGRAPHIC INSTITUTE

11:30 Dennis McIntosh
TRANSITIONING FROM INSTRUCTOR CENTERED TEACHING TO STUDENT CENTERED LEARNING

11:45 A. David Scarfe
REFINING AQUATIC VETERINARY EDUCATION AND TRAINING TO MEET THE NEEDS OF THE AQUACULTURE INDUSTRIES

12:00 Hugh Hammer, Stephen Watts, Samuel Cartner, Susan Farmer, Mark Rath
A UNIQUE APPROACH TO CREATING A NEW POST-SECONDARY AQUACULTURE CURRICULUM TO ADDRESS THE EDUCATION OF ZEBRAFISH HUSBANDRY TECHNICIANS IN BIOMEDICAL RESEARCH FACILITIES

12:15 Anita M. Kelly
INNOVATIVE TEACHING STRATEGIES UTILIZED IN AQUACULTURE AND FISHERIES COURSES TAUGHT AT AN 1890 INSTITUTION OF HIGHER EDUCATION

12:30 LUNCH
1:30  Tetsuzan Benny Ron, Michael Ogo
A NOVEL POSTSECONDARY AQUACULTURE TRAINING ON-LINE LEARNING (ATOLL) INTERNSHIP PROGRAM AT THE NORTHERN MARIANAS COLLEGE

1:45  Troy J. Hahn
PLANNING AND ADMINISTRATING A GLOBAL DISTANCE EDUCATION PROGRAM

2:00  Nathan Cochran, Charles Weibel
GROWTH AND EXPANSION OF KENTUCKY STATE UNIVERSITY’S ONLINE AQUACULTURE COURSES

2:15  Amber Garr, Susan Laramore, Cortney Ohs, Brian Myers
AQUACULTURE IN ACTION PART I: EVALUATION OF THE TEACH AQUACULTURE CURRICULUM

2:30  Katrin Rudge, Linda Nook, Diane Bassett, Norine Eckstrom, Jada Thompson, Glenn Wachtter, Judy Meeksritis, Effa Beaudette
PRESEVE TODAY! FOR TOMORROW’S FUTURE! INFUSING STATE-CERTIFIED AQUACULTURE PROGRAMS INTO HIGH SCHOOLS

2:45  Cherie Sukovich, Joseph Mallon
DIFFERENT APPROACHES TO THE SUMMER CARE OF AQUACULTURE CROPS AS APPLIED IN A SECONDARY PUBLIC SCHOOL ENVIRONMENT

3:00  David J. Cline
INTEGRATING AQUACULTURE INTO THE SECONDARY SCHOOL CLASSROOM: BEYOND BIOLOGY AND CHEMISTRY

3:15  William B. Bean
AQUACULTURE: A BASIS FOR PROJECT-BASED SCIENCE INSTRUCTION FOR SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS AUDIENCES IN KENTUCKY

3:30  Adam Frederick, Jackie Takacs
THE AQUACULTURE IN ACTION PROGRAM AND THE DEVELOPMENT OF SCIENCE RESEARCH COURSES THAT SUPPORT AQUACULTURE AS A TOOL FOR STEM EDUCATION

3:45  Carlos V. Martinez
TEACH AQUACULTURE: SUCCESS STORIES RELATED TO THE IMPLEMENTATION OF THE “TEACH AQUACULTURE CURRICULUM” IN BOTH MIDDLE AND HIGH SCHOOLS IN THE STATE OF FLORIDA

4:00  Sheldon Watkins, Brian Nerrie, Albert Reid, Harris Wheeler, Sarah Morton
REALITIES OF S.T.E.M. AQUACULTURE EDUCATION

4:15  George B. Brooks, Jr.
AQUAPONICS IN STEM (SCIENCE, TECHNOLOGY, ENGINEERING, MATHEMATICS AND MEDICINE) EDUCATION IN PHOENIX, ARIZONA

4:30  Matthew Ferrell, Kenneth Semmens
MODEST AQUAPONIC SYSTEM FOR PERSONAL OR EDUCATIONAL USE
Veterinary Aspects of Fish Health & Disease – Moderator: Lester Khoo

11:00 Raphael Orélis Ribeiro, Covadonga R. Arias, Stephen A. Bullard
SURVEY OF WATERBORNE BLACK YEASTS Exophiala spp. FROM FRESHWATER AQUACULTURE PONDS IN ALABAMA

11:15 Julia Pridgeon, Phillip H. Klesius, Xingjiang Mu
EVALUATION OF AN IN VITRO CELL ASSAY TO SELECT ATTENUATED BACTERIAL MUTANTS OF Aeromonas hydrophila AND Edwardsiella tarda TO CHANNEL CATFISH

11:30 Roxanna Smolowitz, Ronald Smolowitz, Carl Huntsberger, Kathryn Goetting
COULD THE DECLINE IN YELLOWTAIL FLOUNDER POPULATIONS BE DUE TO DISEASE?

11:45 Jason Evenhuis, Gregory Wiens, Scott LaPatra
Flavobacterium columnare STUDIES IN RAINBOW TROUT Oncorhynchus mykiss

12:30 LUNCH

Veterinary Aspects of Fish Health & Disease – Moderator: Pat Gaunt

1:30 Stephan Bullard, Haitham Mohammed, Cova Arias
Flavobacterium columnare GENOMOVAR II FROM BLUEGILL Lepomis macrochirus IN ALABAMA PONDS, WITH OBSERVATIONS ON ASSOCIATED LESIONS

1:45 Haitham H. Mohammed, Covadonga R. Arias
EPIDEMIOLOGICAL STUDY OF COLUMNARIS DISEASE AFFECTING FISH SPECIES WITHIN THE SAME WATERSHED

2:00 Diana Jaramillo, Paul Hick, Kitman Dyrting, Richard Whittington
LONGITUDINAL STUDY OF VIRAL NERVOUS NECROSIS ON AUTRALIAN NATIVE FISH SPECIES WITH EMPHASIS ON TRANSMISSION

2:15 Rodrigo Belmonte, Pieter van West, Chris Secombes
THE IMMUNE RESPONSE OF ATLANTIC SALMON Salmo salar TO SAPROLEGNIOSIS

2:30 Swetha Kambalapally, Jenny Tang, Moti Harel, Jaime Tobar
NOVEL VACCINE ANTIGENS ENCAPSULATION TECHNOLOGY FOR ORAL ADMINISTRATION IN FISH

2:45 Cova Arias, Wenlong Cai, Stacey LaFrentz
SURVIVAL STRATEGIES OF Flavobacterium columnare

3:00 A. S. Ninawe
AQUATIC ANIMAL HEALTH MANAGEMENT IN INDIAN AQUACULTURE SYSTEM: STRATEGY FOR HIGH PRODUCTION
EXPOSURE TO ELEVATED LEVELS OF DISSOLVED CARBON DIOXIDE RESULTS IN CATARACT FORMATION IN JUVENILE ATLANTIC COD *Gadus morhua*

**ADVANCES IN POND FERTILIZATION AND LIMING**
Friday, February 22 1:30 - 3:30  Room 211
Chairs: Chuck Mischke, Claude Boyd

1:30 Claude E. Boyd
WATER QUALITY AND POND FERTILIZATION

1:45 Jimmy L. Avery
CONTROLLING PLANT PESTS BEFORE FERTILIZATION

2:00 Charles C. Mischke
CHOOSING A POND FERTILIZATION MANAGEMENT STRATEGY

2:15 Charles Weirich, Jesse Chappell
FERTILIZATION OF MARINE FINFISH NURSERY PONDS FOR AQUACULTURE PRODUCTION

2:30 Rawee Viriyatum
POTASSIUM FERTILIZATION IN AQUACULTURE PONDS

2:45 Charles C. Mischke
ELIMINATING EARLY FEEDING OF CHANNEL CATFISH FRY THROUGH FERTILIZATION AND ZOOPLANKTON MANAGEMENT

3:00 James S. Diana
SOME PRINCIPLES OF POND FERTILIZATION FOR NILE TILAPIA USING ORGANIC AND INORGANIC INPUTS

**FEDERAL INTERAGENCY-STAKEHOLDER FORUM:**
**THE FUTURE OF US AQUACULTURE**
Friday, February 22 1:30 - 3:30  Room 203
Moderator: Jeffrey Silverstein

**Description:** This session provides an opportunity to present a Federal interagency perspective on aquaculture directions, priorities and goals followed by several aquaculture and seafood industry leaders describing the problems and opportunities for the future of aquaculture development in the United States. An open forum with the audience will follow introductory comments.

**Discussants:** Alan Cook-Icicle Seafoods, Bill Dewey-Taylors Shellfish, Gary Jensen-USDA-NIFA, Jim Parsons-Troutlodge Inc., Randy Rhodes-Harvest Select, Michael Rubino-NOAA and Fiona Robinson-Seafood Business

1:30 Open Forum
Gary L. Jensen, Jeff Silverstein, Michael Rubino, Gene Kim, Joel Bader
FEDERAL INTERAGENCY COORDINATION TO SUPPORT AQUACULTURE DEVELOPMENT IN THE USA
12:00 **Biswaimitra Patro**, Ronald W. Hardy, Peter J. Bechtel, Scott Smiley, Madison Powell
OPTIMAL DIETARY N-3 FATTY ACID REQUIREMENT OF RAINBOW TROUT FRY

12:15 **David Jirsa**, Artur N. Rombenso, Jesse T. Trushenski, Mark Drawbridge
SUCCESSFUL FISH OIL SPARING IN WHITE SEABASS FEEDS USING SATURATED FATTY ACID-RICH SOY OIL

12:30 LUNCH

1:30 **Bonnie Mulligan**, Jesse Trushenski
STRATEGIES TO INCREASE NUTRITIONAL VALUE OF NILE TILAPIA WHILE MINIMIZING USE OF FISH OIL

1:45 **Brian Gause**, Jesse Trushenski
TWO ALTERNATIVES TO FISH OIL IN RAINBOW TROUT *Oncorhynchus mykiss* DIETS MAINTAINING PRODUCTION PERFORMANCE AND FATTY ACID PROFILE

2:00 **Franklin R. Woitel**, Jesse T. Trushenski, Michael H. Schwarz, Steve Urick, Victor Andrade, Michael Jahncke
IMPACT OF ALTERNATIVE, NON-FISH OIL LIPID SOURCES ON JUVENILE COBIA GROWTH PERFORMANCE AND TISSUE FATTY ACID COMPOSITION

2:15 **Michele Thompson**, Steven D. Rawles, Rebecca Lochmann
THE EFFECTS OF MENHADEN OIL, FLAXSEED OIL AND A DAIRY-YEAST PREBIOTIC ON GROWTH, HEALTH, FEED CONVERSION, SURVIVAL, CRITICAL MAXIMUM TEMPERATURE, AND BODY COMPOSITION OF SUNSHINE BASS

2:30 **Todd Sink**, Rebecca Lochmann, Gwenn Merry, Andrew Goodwin
VALIDATION AND UTILIZATION OF A DELTA-6 FATTY ACYL DESATURASE GENE EXPRESSION ASSAY FOR CHANNEL CATFISH *Ictalurus punctatus*

2:45 **Todd Sink**, Rebecca Lochmann, Gwenn Merry, Andrew Goodwin
ONTOGONY AND RESPONSE OF DELTA-6 FATTY ACYL DESATURASE GENE EXPRESSION IN RESPONSE TO DIETARY LIPIDS AND PHOSPHOLIPID IN CHANNEL CATFISH *Ictalurus punctatus*

3:00 **Ronald B. Johnson**, William Fairgrieve, Emily Freitas
RESTORING GROWTH IN JUVENILE SABLEFISH *Anoplopoma fimbria* FED PLANT OIL FEEDS LOW IN DHA AND ARA. EVIDENCE OF DIRECT ELONGATION BUT NOT DESATURATION OF LINOLEIC AND LINOLENIC ACIDS
3:15 Ronald B. Johnson, Eric Kroeger, William Reichert, Cameron Carter, Michael B. Rust
UPTAKE AND SELECTIVE PARTITIONING OF DIETARY LIPIDS AND FATTY ACIDS TO EGG AND MUSCLE TISSUE OF MATURING COHO SALMON Oncorhynchus kisutch DURING SECONDARY OOCYTE GROWTH

3:30 Todd Sink, Rebecca Lochmann
HEPATIC AND LIPOPROTEIN LIPASE ACTIVITY IN RESPONSE TO DIETARY N-3, N-6, AND PHOSPHOLIPIDS IN CHANNEL CATFISH Ictalurus punctatus AND LARGEMOUTH BASS Micropterus salmoides

SHRIMP GENETICS AND BREEDING
Friday, February 22  1:30 - 5:30  Room 103
Chair: Dean Jerry

1:30 Kyall Zenger, David Jones, Dean Jerry
TOWARDS GENOMIC SELECTION: ESTABLISHMENT OF AN INTEGRATED GENETIC SELECTIVE BREEDING PROGRAM FOR THE WHITELEG SHRIMP Litopenaeus vannamei

2:00 João L. Rocha, Ana C. Guerrelhas, Ana K. Teixeira, Flávio G. Farias
UPDATE ON THE EVOLUTION OF BRAZILIAN SPF SHRIMP BREEDING PROGRAM

2:15 Nigel P. Preston
THE INTERFACE BETWEEN R&D PROVIDERS AND THE SHRIMP INDUSTRY: OPPORTUNITIES, CHALLENGES AND SOLUTIONS IN DOMESTICATION AND SELECTIVE BREEDING OF Penaeus monodon

2:30 Jie Kong, Kun Luo, Sheng Luan, Xiaohong Ruan, Qingyin Wang
THE GENETIC IMPROVEMENT OF CHINESES SHRIMP Fenneropenaeus chinesis

2:45 Nick Wade, Melony Sellars, Ron Tume, Nigel Preston, Brett Glencross
REGULATION AND OPTIMISATION OF SHRIMP COLOURATION: THERE IS MORE TO IT THAN MEETS THE EYE

3:00 Nick Wade, Simon Tabrett, Simon Irvin, Mike Anderson, David Blyth, David Smith, Greg Coman, Nigel Preston, Brett Glencross
AN ANALYSIS OF THE EFFECT OF DIET AND GENOTYPE ON PROTEIN AND ENERGY UTILIZATION BY THE BLACK TIGER SHRIMP Penaeus monodon – WHY DO GENETICALLY SELECTED SHRIMP GROW FASTER?

3:15 Melony Sellars, Philip Hertzler
DISCOVERING THE MOLECULAR AND GENETIC PATHWAYS THAT CONTROL GENDER AND FERTILITY IN SHRIMP

3:30 Greg Coman, Melony Sellars, John Henshall, Nigel Preston
Penaeus monodon BREEDING: GENETIC IMPROVEMENT USING NOVEL TECHNOLOGIES AND TECHNIQUES

3:45 João L. Rocha, Ana C. Guerrelhas
SHRIMP BREEDING PROGRAM ISSUES FROM BRAZIL: WSSV RESISTANCE, NEW THEORIES ON DISEASE RESISTANCE, SUBVERSION OF THE CLASSICAL SPF CONCEPT
PADDLEFISH IN AQUACULTURE:
CURRENT AND FUTURE DIRECTIONS
Friday, February 22  1:30 - 5:30  Room 202
Chair: Steve Mims

1:30  Steven Mims
CURRENT GLOBAL STATUS OF AMERICAN PADDLEFISH AQUACULTURE

1:45  Kyle J. Schneider, Shuhai Bu, Steven D. Mims, Boris Gomelsky
GENETIC STRUCTURE AMONG FOUR POPULATIONS OF PADDLEFISH Polyodon spathula BASED ON MICROSATELLITE MARKERS

2:00  William L. Shelton, Steven D. Mims
EVIDENCE FOR FEMALE HETEROGAMETIC SEX DETERMINATION IN PADDLEFISH Polyodon spathula BASED ON GYNOGENESIS

2:15  Daniel Aboagye, Peter J. Allen
EFFECTS OF HYPOXIA AND TEMPERATURE ON HYPOXIA TOLERANCE, OXYGEN CONSUMPTION RATE AND SWIMMING PERFORMANCE IN JUVENILE PADDLEFISH Polyodon spathula

2:30  Noah L. Nelson, Rafael Cuevas, Steven D. Mims
MUSCLE ACTIVITY AND RESPIRATION RATES OF PADDLEFISH Polyodon spathula DETERMINED BY BODY MASS AND TEMPERATURE IN A RESPIROMETER

2:45  Zachary Martin, Steven Mims, Rafael Cuevas
EVALUATIONS OF THE INFLUENCES OF PADDLEFISH Polyodon spathula ON RESERVOIR ECOSYSTEMS IN KENTUCKY

3:00  Noah L. Nelson, Richard J. Onders, Steven D. Mims
PREDATION OF JUVENILE PADDLEFISH STOCKED FOR RANCHING BY SOME PISCIVOROUS FISHES FOUND IN RESERVOIRS OF THE USA

3:15  Alex Squadrito, Rafael Cuevas, Steven Mims
INTENSIVE POND PRODUCTION OF PADDLEFISH Polyodon spathula IN KENTUCKY

3:30  Forrest Wynne
HARVESTING POLYCULTURED FOOD-SIZE CHANNEL CATFISH Ictalurus punctatus AND MATURE PADDLEFISH Polyodon spathula FROM PONDS: A DEMONSTRATION PROJECT
SUSTAINABLE SHELLFISH AQUACULTURE IN DEVELOPING COUNTRIES
Friday, February 22   1:30 - 5:30   Room 201
Chairs: Ford Evans, Hillary Egna

3:00  Ford Evans, Hillary Egna
USING BIVALVE AQUACULTURE TO IMPROVE FOOD SECURITY AND LIVELIHOODS IN DEVELOPING COUNTRIES

3:15  Maria C. Haws, Nelvia Hernandez, Erick Sandoval, Juan Ramon Bravo, Carlos Rivas LeClair, Eufrasia Balladares, Brian Crawford
BLACK COCKLE Anadara spp. FISHERIES CO-MANAGEMENT AND AQUACULTURE IN NICARAGUA

3:30  Brian Crawford, Lina Kelpsaite, Gibril Gabis, Ousman Drammeh, Michael Rice, Fatou Mboob
ACTION RESEARCH IN THE GAMBIA: CAN SHELLFISH AQUACULTURE AND SEA RANCHING ENHANCE FOOD SECURITY, INCOMES AND EMPOWER WOMEN HARVESTERS IN THE GAMBIA?

3:45  Hauke Kite-Powell, Skip Bennett, John Brawley, Narriman Jiddawi, Richard Karney, Tara Riley, Yussuf Saloum, Andrew Yberg, Said Yuma
DEVELOPING SHELLFISH AQUACULTURE IN ZANZIBAR, TANZANIA

4:00  Julianna McCorkle, Hauke L. Kite-Powell
THE POTENTIAL FOR MARINE AQUACULTURE AS A MEANS OF IMPROVING FOOD SECURITY IN EAST AFRICA

4:15  Hauke L. Kite-Powell
ECONOMIC IMPLICATIONS OF DIFFERENT PATHS FOR DEVELOPING AQUACULTURE IN THE WESTERN INDIAN OCEAN REGION
4:30  Maria C. Haws, Simon C. Ellis, Narriman S. Jiddawi, Elin C. Torrell, Aviti J. Mmochi, Mattlan Zackhras
COMPARISON OF COMMUNITY-BASED PEARL FARMING IN THE FEDERATED STATES OF MICRONESIA (FSM), REPUBLIC OF THE MARSHALL ISLANDS (RMI) AND ZANZIBAR, TANZANIA

4:45  PANEL DISCUSSION

MEETING PRODUCTION GOALS WITH LIMITED RESOURCES
Friday, February 22  3:30 - 5:30  Room 211
Chair: Robert P. Schmid II

3:30  Douglas B. Aloisi
CONSTRUCTION AND OPERATION OF REMOTE REARING SYSTEMS TO MEET PRODUCTION GOALS USING LIMITED RESOURCES

3:45  Ed Eisch
A SUMMARY OF EFFLUENT MANAGEMENT IMPROVEMENTS AT PLATTE RIVER STATE FISH HATCHERY

4:00  Steve Sharon
MAXIMIZING SERIAL USE PRODUCTION OF WYOMING GAME AND FISH DEPARTMENT'S SPEAS REARING STATION

4:15  Robert Rode, Kwamena Quagrainie
MAINTAINING WARM WATER TEMPERATURES FOR INDOOR FISH CULTURE IN THE MIDWEST U.S.

4:30  Nagaraj Chatakondi, Brian Peterson, Terry Bates
HOLDING HORMONE-INDUCED CHANNEL CATFISH FEMALES IN HATCHERY POND IMPROVES EFFICIENCY AND REDUCES THE HATCHERY COST OF PRODUCING CHANNEL × BLUE HYBRID CATFISH FRY

4:45  Mike Freeze, Mike Clark, Rick Williams, Steve David
COMMERCIAL SCALE STOCKING OF HYBRID STRIPED BASS FRY

5:00  Bonnie Johnson
UPDATE OF USFWS INAD PROGRAM MANAGEMENT SYSTEM

5:15  Robert P. Schmid II
PRACTICAL SAFE ECO-DRIVING TECHNIQUES TO CONSERVE RESOURCES, SAVE MONEY AND DRIVE SAFER
AQUACULTURE WITHOUT FRONTIERS
Friday, February 22     3:30 - 5:30     Room 203
Chair: Dave Conley

3:30  Dave Conley
AQUACULTURE WITHOUT FRONTIERS: PAST, PRESENT AND FUTURE

3:45  Kevin Fitzsimmons
AQUACULTURE WITHOUT FRONTIERS FARMER TO FARMER PROGRAMS

4:00  Patricia Moraes-Valenti
POSSIBILITIES OF AwF COLLABORATION WITH BRAZILIAN ORGANIZATIONS WORKING ON POVERTY ALLEVIATION

4:15  David Little, Ram Bhujel
TILAPIA HATCHERY STRATEGIES IN ASIA – SPANNING THE INTENSITY CONTINUUM

4:30  William N. Mebane
LOW RESOURCE TILAPIA CULTURE IN HAITI, LIMITATIONS, OPPORTUNITIES, AND POSSIBLE STRATEGIES FOR INTENSIFICATION

4:45  May Myat Noe Lwin
AWF’S ROLE IN DEVELOPING MYANMAR’S AQUACULTURE POTENTIAL

5:00  Roy Palmer
MARKETING AwF INTO THE FUTURE

5:15  Dave Conley
Q&A Session and TILAPIA AQUACULTURE IN HAITI WORKSHOP 2011: HIGHLIGHTS AND OUTCOMES

TOWN HALL ENGAGEMENT WITH FEDERAL AQUACULTURE PROGRAMS
Friday, February 22     3:30 - 5:30     Room 204
Moderator: Betsy Hart

Description: This session provides an opportunity for direct dialogue with key aquaculture leaders and managers from diverse federal agencies with the goal of identifying critical issues, problems and/or opportunities for federal agencies to address in partnership with industry in 2013.

Participating Agencies and Representatives:
Joint Subcommittee on Aquaculture and USDA/NIFA (Gary Jensen), USDA/APHIS-Veterinary Services (Janet Whaley, Joyce Bowling-Heyward), USDA/NASS (Dan Kerestes), ARS (Jeffrey Silverstein), USDA Agricultural Marketing Service (Miles McEvoy), FDA-Center for Veterinary Medicine (Jennifer Matysczak), FDA-Center for Food Safety and Applied Nutrition (Brett Koonse), NOAA Fisheries (Michael Rubino), NOAA Sea Grant (Gene Kim), USFWS (Joel Bader), and USGS (Mark Gaikowski).
EFFLUENT WASTE MANAGEMENT STRATEGIES
Friday, February 22     3:30 - 5:30     Room 104
Chairs: Todd Guerdat, Reg Blaylock

3:00 Harry Daniels, Jeonghwan Park, Ohla Sydorovych
EVALUATION OF ALTERNATIVE EFFLUENT TREATMENTS FOR HYBRID STRIPED BASS PONDS IN NORTH CAROLINA

3:15 Jason Danaher, Jeremy Pickens, Jesse Chappell, Jeffrey Sibley, Terrill Hanson, Claude Boyd
POTENTIAL BENEFITS OF AQUACULTURE EFFLUENT

3:30 Todd C. Guerdat, Thomas M. Losordo, Michael Burchell, Steve Broome, Marc Turano
A HYBRID APPROACH TO TREATING RECIRCULATING AQUACULTURE EFFLUENT TREATMENT USING GEOTEXTILE BAGS, BIOLOGICAL FILTRATION AND CONSTRUCTED TREATMENT WETLANDS

3:45 Richard Jones, Marc J. Turano, Thomas M. Losordo
PRACTICAL REVIEW OF THE NORTH CAROLINA STATE UNIVERSITY LOW HEAD UP-FLOW PARTICULATE FILTER

4:00 Reginald B. Blaylock, James M. Ebeling, Erik Kopache, Todd C. Guerdat
MANAGING MARINE RECIRCULATING AQUACULTURE SYSTEM EFFLUENT USING A MULTI-TROPHIC APPROACH

4:15 Kevin Fitzsimmons, Brunno Cerozi, Tekie Anday
INTEGRATED AQUACULTURE-AGRICULTURE AS AN EFFLUENT MANAGEMENT STRATEGY

4:30 Kenneth Semmens, Matthew Ferrell
COMBINATION OF METHODS FOR WASTE MANAGEMENT IN A SERIAL REUSE SPRING FED FLOWING WATER SYSTEM FOR PRODUCTION OF TROUT

4:45 Juan P. González-Hermoso, Carmen Paniagua-Chávez, Manuel Segovia
EFFECT OF THREE DIFFERENT PRE-TREATMENT IN SLUDGE DIGESTION AND DENITRIFICATION OF AQUACULTURE EFFLUENTS

5:00 Guozhi Luo, W. Y. Liang, H. X. Tan
EFFECTS OF CALCIUM/MAGNESIUM ON PRODUCING HETEROTROPHIC BACTERIA BIOMASS DURING START-UP STATE OF SEQUENCING BATCH REACTOR TREATING AQUACULTURE SOLID WASTE
FUNCTIONAL AQUAFEED INGREDIENTS – PREBIOTICS, PROBIOTICS, AND NUTRICEUTICALS
Friday, February 22     3:30 - 5:30     Room 102
Chair: Wendy Sealey

Sponsor: Alltech®

3:30  Brian Shepherd, Osvaldo Sepulveda Villet, Fred Binkowski
EXPANDING THE EVALUATION OF PROBIOTICS AND PREBIOTICS FOR AQUAFEEDS: PERSPECTIVES ON THE LIMITATIONS AND NEEDS FOR SURROGATE MEASURES OF EFFECTIVENESS

3:45  Gary Burr, William Wolters, Frederic Barrows, Michael Hume
EVALUATION OF A COMMERCIAL PREBIOTIC ON PERFORMANCE CHARACTERISTICS, INTESTINAL MICROBIAL COMMUNITY, IMMUNE FUNCTION AND INTESTINAL TRACT MORPHOLOGY OF ATLANTIC SALMON Salmo salar

4:00  Brian Peterson, Brian Bosworth, Goncalo Santos, Ruben Beltran, Menghe Li
EFFECTS OF ESSENTIAL OILS (DIGESTAROM® P.E.P. MGE) ON PERFORMANCE CHARACTERISTICS, SURVIVAL, PROCESSING CHARACTERISTICS, AND FILLET PROXIMATE COMPOSITION OF CHANNEL CATFISH Ictalurus punctatus

4:15  Samuel Addo, William H. Daniels, Jeffery S. Terhune
EVALUATION OF THE COMMERCIALLY-AVAILABLE PROBIOTIC PRODUCT LYMNOZYME® AS AN EFFECTIVE CONTROL OF COLUMNARIS INFECTION IN JUVENILE CHANNEL CATFISH Ictalurus punctatus

4:30  Daniel Ward, Rachel Bone, David Bengtson, Chong Lee, Marta Gomez-Chiarri
IDENTIFICATION OF COMPOUNDS PRESENT IN SOYBEAN EXTRACT THAT PROTECT SUMMER FLOUNDER Paralichthys dentatus AGAINST BACTERIAL CHALLENGE

4:45  Osvaldo Sepulveda Villet, Brian Shepherd, Fred Binkowski
LIVE FEED ENRICHMENT WITH PROBIOTICS: CURRENT METHODS AND FUTURE PERSPECTIVES ON INCREASING FINFISH LARVICULTURE SUCCESS

5:00  Brian R. Ham, Blake S. Hauptman, Wendy M. Sealey
UTILIZATION OF YEAST IN RAINBOW TROUT DIETS
SHRIMP NUTRITION – CONTINUED
Saturday, February 23  8:30 - 10:00  Room 205
Chairs: Alberto Nunes, Daniel Lemos

Sponsor: NOVUS

8:30  Arul Victor Suresh
SHRIMP FEED SECTOR IN ASIA

9:00  Alberto J. P. Nunes, Leandro F. Castro
THE DIETARY LEVELS OF FISH MEAL AND FISH OIL AFFECTS THE GROWTH PERFORMANCE OF THE WHITE SHRIMP Litopenaeus vannamei IN A ZERO-WATER EXCHANGE SYSTEM

EVALUATION OF TRANSGENIC AND REGULAR GLANDLESS COTTONSEED MEAL AS A DIETARY PROTEIN AND LIPID SOURCE FOR Litopenaeus vannamei REARED UNDER ZERO-EXCHANGE CONDITIONS

9:30  Dagoberto Sanchez, Joe Fox, Delbert M. Gatlin III, Addison Lawrence
DIETARY EFFECT OF FISH OIL AND SOYBEAN LECITHIN ON GROWTH AND SURVIVAL OF JUVENILE Litopenaeus vannamei IN THE PRESENCE OR ABSENCE OF MICROALGAE

9:45  Gérard Cuzon, Gabriela Gaxiola, Robert Galois
ANALYSIS OF VARIOUS FEEDS AND FOODS TO GROW PENEID SHRIMP BREEDERS

SEAFOOD CARDS – HAVE THEY IMPACTED THE AQUACULTURE INDUSTRY?
Saturday, February 23  8:30 - 12:30  Room 211
Chair: Tom Pickerell

8:30  Pete Bridson
THE REVISED SEAFOOD WATCH AQUACULTURE ASSESSMENT CRITERIA

8:45  Corey Peet
UTILIZING SEAFOOD WATCH AS A TOOL FOR CHANGE IN DEVELOPING COUNTRIES

9:00  Cathy Roheim
IMPROVING SUSTAINABLE SEAFOOD LISTS AND CONSUMERS’ ABILITY TO CHOOSE
9:15 Peter Tyedmers, Nathan Pelletier
LIFE CYCLE CONSIDERATIONS FOR IMPROVING SUSTAINABILITY ASSESSMENTS IN SEAFOOD LISTS

9:30 James S. Diana
SEAFOOD CARDS – THEIR IMPACT TODAY AND ROLE FOR THE FUTURE

9:45 Daniel Benetti
THE POTENTIAL ROLE OF THE SEAFOOD WATCH SCIENCE ADVISORY BOARD (SAB) IN ENSURING THAT THE PROGRAM CAN BE A POSITIVE TOOL TO BENEFIT, AND PROMOTE, SUSTAINABLE AQUACULTURE DEVELOPMENT AND PRACTICES AIMING AT SECURING WHOLESOME SEAFOOD PRODUCTION

10:00 BREAK

10:30 Per Heggelund
USING SEAFOOD WATCH RATINGS FOR POSITIVE MESSAGING

10:45 Scott Nichols
VERLASSO SALMON AND THE SEAFOOD WATCH EXTERNAL ASSESSMENT MODEL

11:00 José Luis Fernández-Sánchez, Ladislao Luna, José Fernández-Polanco, Ignacio Llorente
THE IMPACT OF SEAFOOD ECOLABELS ON FIRMS’ PERFORMANCE: A PANEL DATA ANALYSIS

11:15 Panel Discussion

AQUACULTURE DRUG RESEARCH AND DRUG APPROVAL STATUS
Saturday, February 23  8:30 - 12:30  Room 208
Chairs: Dave Straus, Jim Bowker

8:30 Jesse T. Trushenski, James D. Bowker, David C. Glover
ASSESSING VARIABILITY IN THE RESPONSES OF FISH TO DIFFERENT SEDATIVES

8:45 Mark P. Gaikowski, Jeffery R. Meinertz, Scott T. Porcher, Justin R. Smerud
DETERMINING AQUI-S® 20E EXPOSURE PARAMETERS THAT MAXIMIZE EUGENOL CONCENTRATIONS IN FISH FILLET TISSUE AND CHARACTERIZING THE DEPLETION OF EUGENOL FROM FILLET TISSUE

9:00 Julia Pridgeon, Phillip Klesius, Xingjiang Mu, Lin Song
AN IN VITRO SCREENING METHOD TO EVALUATE CHEMICALS AS POTENTIAL CHEMOTHERAPEUTANTS TO CONTROL Aeromonas hydrophila INFECTION IN CHANNEL CATFISH

9:15 James Bowker, Molly Bowman, Niccole Wandelear, Dan Carty
IS FEEDING SLICE TO CONTROL INFESTATIONS OF Salmincola californiensis SAFE FOR MY FISH?
9:30  Mark P. Gaikowski, Jeffery R. Meinertz, Karina R. Hess, Melissa Whitsel, Richard G. Endris
DEPLETION OF FLORFENICOL AMINE FROM THE FILLET TISSUE OF RAINBOW TROUT *Oncorhynchus mykiss* MAINTAINED IN RECIRCULATING AND FLOW-THROUGH AQUACULTURE SYSTEMS AND TREATED WITH AQUAFLOR®-MEDICATED FEED

9:45  Dave Straus, Bradley Farmer, Ben Beck, Drew Mitchell
PRE-TREATING CHANNEL CATFISH WITH COPPER SULFATE AFFECTS SUSCEPTIBILITY TO COLUMNARIS DISEASE

10:00 BREAK

10:30  James Bowker, Niccole Wandelear, Molly Bowman, Dan Carty, Mike Matthews, Jesse Trushenski
CHLORAMINE-T OR HYDROGEN PEROXIDE TO CONTROL MORTALITY ASSOCIATED WITH COLUMNARIS: DO THEY WORK AND WHICH IS BETTER?

10:45  Jim Bowker, Jesse Trushenski
AFS-FCS WORKING GROUP MEETING ON AQUACULTURE DRUGS, CHEMICALS AND BIOLOGICS

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**SPANISH MARINE AQUACULTURE:**
**INCREASING KNOWLEDGE THROUGH EXPERIENCE**
Saturday, February 23  8:30 - 12:30  Room 203
Chair: Cova Arias, S. Ash Bullard

8:30  Cova Arias
INTRODUCTION

8:45  Dolores Furones, Alicia Estevez, Jorge Diogene, Cristobal Aguilera
IRTA’S AQUACULTURE PROGRAM: A PLATFORM FOR RESEARCH AND TRANSFER

9:00  Cristobal Aguilera, R. Carbó, Alicia Estévez, Dolores Furones
RECIRCULATION SYSTEMS: FROM ABSTRACT THOUGHT TO DAILY USE

9:15  Juan Manuel Afonso, Daniel Montero
MARINE SCIENCES IN THE UNIVERSITY OF LAS PALMAS DE GRAN CANARIA

9:30  Daniel Montero, Juan Manuel Afonso
AQUACULTURE RESEARCH GROUP OF UNIVERSITY OF LAS PALMAS DE GRAN CANARIA

9:45  Rodolfo Barrera
INTENSIVE EEL CULTURE IN SPAIN: PAST AND PRESENT

10:00 BREAK

10:30 Ariadna Sitja-Bobadilla, Oswaldo Palenzuela
FISH-PARASITE INTERACTIONS: LESSONS FROM THE MEDITERRANEAN AQUACULTURE
10:45  Juan L. Barja, Alicia Toranzo  
AQUACULTURE AND FISH HEALTH: A MODEL OF R&D IN THE MARINECULTURE OF GALICIA (NW, SPAIN)

11:00  Belen Fouz, Carmen Amaro  
A COMPREHENSIVE APPROACH TO THE STUDY OF FISH DISEASES IN AQUACULTURE

11:15  José A. Sanchez, Yaisel Borrell, Carmen Garcia-Fernandez, Gloria Blanco  
GENETIC MARKERS IN MANAGING OF SPANISH FARMED STOCK OF GILTHEAD SEABREAM Sparus aurata

11:30  Oscar Moroig, Francisco Hontoria, Inmaculada Varo, Juan C. Navarro  
IDENTIFICATION OF DIETARY ESSENTIAL FATTY ACIDS FOR CEPHALOPODS: A MOLECULAR APPROACH

11:45  ROUND TABLE DISCUSSION

WORKING WATERFRONTS SPECIAL SESSION  
Saturday, February 23  8:30 - 12:30  Room 202  
Chair: Kristin Rasmussen

8:30  Michael Rubino, Christopher Botnick  
AQUACULTURE AND ECONOMIC OPPORTUNITY: NOAA'S ROLE IN SUPPORTING WORKING WATERFRONTS

8:45  Stephanie Showalter Otts, Caitlin Cleaver  
THE NATIONAL WORKING WATERFRONT NETWORK: RAISING AWARENESS OF THE VALUE OF WORKING WATERFRONTS AND DEVELOPING TOOLS TO SUPPORT, PRESERVE, AND ENHANCE WATERFRONT ACCESS

9:00  Dana Morse, Teresa Johnson, Nick Battista, Sebastian Belle, Richard Clime, Christopher Davis, Amanda LaBelle, Sarah Redmond, Catherine Schmitt, Kathryn Tenga-Gonzalez  
AQUACULTURE IN SHARED WATERS

9:15  Adam Wagschal  
MARICULTURE EXPANSION PROJECT: HUMBOLDT BAY, CALIFORNIA

9:30  Vicky Carrasco, Thomas Murray  
A CASE STUDY: MARYLAND WORKING WATERFRONT EFFORTS AND THE LAND USE CONNECTION

9:45  Gil Sylvia  
DEVELOPING A REAL TIME KNOWLEDGE SYSTEM FOR SEAFOOD SCIENCE, MANAGEMENT, AND MARKETING: FISHTRAX.COM

10:00  BREAK

10:30  Leslie Sturmer, Suzanne Colson  
CEDAR KEY EVERLASTING: AN EDUCATIONAL TOOL TO INSPIRE APPRECIATION BY THE PUBLIC FOR SHELLFISH AQUACULTURE
SHELLFISH GENETICS
Saturday, February 23     8:30 - 12:30     Room 201
Chairs: Matt Hare, Anu Frank-Lawale

8:30  **Louis Plough**, Dennis Hedgecock  
HIGH GENETIC LOAD IN WILD FAMILIES OF THE PACIFIC OYSTER *Crassostrea gigas*: AN EXPLANATION FOR HIGH EARLY MORTALITY (TYPE-III SURVIVORSHIP)?

8:45  **Pierre Boudry**, Estelle Harrang, Emilie Flahauw, Serge Heurtebise, Florence Cornette, Isabelle Arzul, Sylvie Lapègue  
RECENT DEVELOPMENTS IN THE IDENTIFICATION OF QTLS IN EUROPEAN AND PACIFIC OYSTERS: NEW MARKERS AND NEW TRAITS

9:00  **Matthew P. Hare**, Laura E. Eierman  
USING ‘LOCAL’ BROOD STOCK FOR RESTORATION – HOW LOCAL IS ‘LOCAL’ AND WHAT IS THE EVIDENCE FOR RISKS AND BENEFITS?

INVASION GENETICS OF FERAL POPULATIONS OF THE PACIFIC OYSTER *Crassostrea gigas* IN THE BRITISH ISLES INFERRED FROM MICROSATELLITE AND MITOCHONDRIAL DNA

9:30  **Mackenzie Gavery**, Steven Roberts  
CHARACTERIZATION OF DNA METHYLATION AS A SOURCE OF EPIGENETIC REGULATION IN THE PACIFIC OYSTER *Crassostrea gigas*

10:00 BREAK

10:30  **Jingjing Yan**, Huxia Du, Meilin Tian, Xiaoyu Mu, Shi Wang, Wei Lu, Zhenmin Bao  
PARENTAGE ASSIGNMENT AND CONSTRUCTION OF LINKAGE MAP IN THE SEA CUCUMBER *Apostichopus japonicus*

10:45  **Xiaoting Huang**, Liping Hu, Yan Sun, Junxia Mao, Zhenmin Bao  
GENOME ORGANIZATION OF INTERSPECIFIC HYBRIDS BETWEEN *Argopecten purpuratus* AND *A. irradians irradians*

11:00  **Anu Frank-Lawale**, Peter D. Kube, Standish K. Allen  
1ST STEPS IN RE-DEFINING BREEDING GOALS FOR THE VIRGINIA OYSTER AQUACULTURE INDUSTRY
ROLE OF ENVIRONMENTAL VARIABILITY IN AQUACULTURE ECOSYSTEM MODELS
Saturday, February 23     8:30 - 12:30     Room 206
Chair: Jon Grant

8:30  Jon Grant, Ramon Filgueira, Jeff Barrell
NEAR-FIELD AND FAR-FIELD STRUCTURE OF AQUACULTURE MODELS AND THEIR INTERFACE WITH BENTHIC HABITAT VARIABILITY

8:45  Ramón Filgueira, Thomas Guyondet, Luc Comeau, Jon Grant
CHANGES IN COASTAL GEOMORPHOLOGY CONTROL ESTUARINE PRODUCTIVITY

9:00  Thomas Guyondet, Luc A. Comeau, Thomas Landry, Rémi Sonier
CLIMATE CHANGE, NUTRIENT REGIME AND SHELLFISH AQUACULTURE PRODUCTION

9:15  Gregor Reid, Thierry Chopin, Robinson Shawn
PURSUING REASONABLE EXPECTATIONS FOR NUTRIENT MITIGATION IN OPEN-WATER INTEGRATED MULTI-TROPHIC AQUACULTURE (IMTA) SYSTEMS

9:30  Suzanne B. Bricker, Joao G. Ferreira, Changbo Zhu, Julie M. Rose, Eve Galimany, Gary H. Wikfors, Robin Landeck Miller, James Wands, Katharine Wellman, Robert B. Rheault, Tessa Getchis, Mark Tedesco
THE FARM MODEL IN LONG ISLAND SOUND – HOW IMPORTANT IS NUTRIENT REMOVAL THROUGH SHELLFISH HARVEST?

10:00 BREAK

MODEL FARMING—SUSTAINABILITY ANALYSIS OF MANILA CLAM FARMING IN THE PACIFIC NORTHWEST, IN TERMS OF PRODUCTION, ENVIRONMENTAL EFFECTS, AND OPTIMIZATION

10:45  Carter R. Newell, Anthony J. S. Hawkins, Kevin Morris, John Richardson, Chris Davis, Tessa Getchis
SHELL-GIS: A NEW GIS SOFTWARE FOR PREDICTING THE GROWTH RATES OF OYSTERS AS A FUNCTION OF SITE SELECTION AND PLANTING DENSITY

11:00 Tessa Getchis, Cary Chadwick, Suzanne Bricker, Julie Rose, Cori Rose
MERGING MODELING AND MAPPING: THE INTEGRATION OF ECOSYSTEM-BASED MODELS AND INTERACTIVE WEB-BASED VISUALIZATION TOOLS FOR IMPROVED AQUACULTURE DECISION MAKING

11:15 Jack Rensel, Dale Kiefer, Frank O’Brien, David Fredriksson
VALIDATION STUDY OF AQUAMODEL FISH FARM SIMULATION SOFTWARE

11:30 Kenneth Black, Thomas Adams, Roland Proud
CONNECTIVITY BETWEEN SALMON FARMS AND SEA LICE POPULATION DYNAMICS
ADVANCES AND OUTLOOK FOR ORGANIC AQUACULTURE
FROM POLICIES TO MARKET
Saturday, February 23  8:30 - 12:30  Room 207
Moderators: George Lockwood and Gary Jensen

8:30  Max Holtzman, George Lockwood
ADVANCES AND OUTLOOK FOR ORGANIC AQUACULTURE FROM POLICIES TO MARKET

8:45  Mark Bradley
STATUS OF ORGANIC RULEMAKING IN USDA

9:15  George Lockwood, Sebastian Belle, John Hargreaves
ISSUES WITH NOSB PROPOSED ORGANIC RULES AND MATERIALS
PETITIONS BY AQUACULTURE WORKING GROUP

9:45  Linda O’Dierno, Carl Salmone, Dick Martin
RETAIL AND CONSUMER VIEWS OF ORGANIC AQUACULTURE

10:15  BREAK

10:30  Ron Hardy, Albert Tacon, Rob Mayo, Ernie Papadoyianis, Andy Logan,
Rick Johnson, Emilie Slaby
ORGANIC FEEDS PANEL

11:15  Brad Hicks, Jim Pierce, Ram Ramkrishnan, Mark Bradley
EUROPEAN AND CANADIAN ORGANIC STANDARDS FOR AQUACULTURE

11:45  Deborah Brister, Jim Pierce, Ram Ramkrishnan
HOW CAN FISH FARMERS PREPARE FOR ORGANIC PRODUCTION?

12:15  George Lockwood, Rob Mayo, Chris Nelson, Per Heggelund
COMMENTS FROM PROSPECTIVE AQUACULTURE PRODUCERS ON ORGANIC STANDARDS

12:45  OPEN DISCUSSION

NON-TRADITIONAL AQUACULTURE
Saturday, February 23  8:30 - 3:30  Room 102
Chair: Bill Wurts, Forrest Wynne, Shawn Coyle

8:30  William A. Wurts
RECTANGULAR AIRLIFT PUMPS: CONCEPT AND DESIGNS

9:00  Ronald Malone
REFINING DESIGN CRITERIA FOR COMMERCIAL SCALE AIRLIFTED
POLYGEYSER® TILAPIA PRODUCTION

9:30  Shawn Coyle, James Tidwell
HOG-BARN AQUACULTURE USING AIR LIFT PUMPS AND A HYBRID MICROBIAL SYSTEM
9:45  William A. Wurts  
SUSTAINABLE AQUACULTURE: ADAPT TO SURVIVE

10:00  BREAK

10:30  Godardo Juanich, Rafael Cuevas-UrIBE, Steven Mims  
REUSE TECHNOLOGY USING DECOMMISSIONED FACILITIES AND RECLAIMED WATER FOR HYBRID STRIPED BASS PRODUCTION

10:45  Shawn Coyle, James Tidwell, Leigh Anne Bright  
INDOOR BIOFLOC SYSTEMS IN TEMPERATE REGIONS

11:00  Joe M. Fox  
AQUACULTURE PRODUCTION OF *Sargassum* sp. AND ITS POTENTIAL USES

11:15  William A. Wurts  
FARMING ALGAL FUEL: OBSTACLES AND OBJECTIVES

11:30  Amir Neori  
MICROALGAE CULTURE IS CONSIDERED ‘NON-TRADITIONAL’ BUT ‘GREENWATER’ MICROALGAE CULTURE IS HUGE AND RATHER TRADITIONAL

11:45  Charles Malveaux, Roger Laine, Steven Hall  
WATER HYACINTH FOR ETHANOL PRODUCTION AND COASTAL PROTECTION

12:00  Gef Flimlin  
GROWING AQUATIC PLANTS INSTEAD OF KILLING THEM

12:30  LUNCH

1:30  Jason Danaher, Jeremy Pickens, Jeffrey Sibley, Jesse Chappell, Terrill Hanson, Claude Boyd  
MARIGOLD AND PETUNIA GROWTH RESPONSE TO FILTRATE EXITING A GEOTEXTILE BAG DEWATERING AQUACULTURE EFFLUENT

1:45  Jeremy Pickens, Jason Danaher, Jesse Chappell, Jeffrey Sibley, Terrill Hanson, Claude Boyd  
NUTRIENT ASSIMILATION OF AQUAPONIC CUCUMBERS AND ITS ROLL IN ECONOMICS AND AQUAPONIC SYSTEM DESIGN

2:00  Maria C. Haws, Simon C. Ellis  
AQUACULTURE DEVELOPMENT IN THE U.S. AFFILIATED PACIFIC ISLANDS

2:15  Alicia Karen Millanguir Millañir, Johann López N., Sven Zea S., Javier Gómez-León  
ADVANCES IN THE MARINE SPONGE CULTURE *Discodermia dissoluta* (SMITH, 1880), IN THE COLOMBIAN CARIBBEAN COAST FOR OBTAINING ANTITUMOR COMPOUND (+) - DISCODERMOLIDE

2:30  Louis R. D’Abramo  
FRESHWATER PRAWN AQUACULTURE – SUSTAINABILITY THROUGH LESS IS BETTER

2:45  Gregory Whitis, Luke Roy, David Coddington  
THE POTENTIAL OF RAISING STRIPED MULLET *Mugil cephalus* WITH PACIFIC WHITE SHRIMP *Litopenaeus vannamei* IN INLAND LOW SALINITY WATERS OF WEST ALABAMA

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OPEN OCEAN AQUACULTURE
Saturday, February 23     8:30 - 3:30     Room 209
Chairs: Ken Riley, Neil Sims, Dan Benetti
Sponsor: DSM Dyneema

8:30  Susan M. Bunsick, Jessica Beck, Brian Fredieu
IMPLEMENTING THE REGULATORY PRIORITIES AND GUIDANCE FOR OFFSHORE AQUACULTURE IN NOAA’S MARINE AQUACULTURE POLICY

8:45  Daniel Benetti, Ronald Hoenig, Jorge Suarez, John Stieglitz, Juan Sierra, Zack Daugherty, Sasa Miralao, Carlos Tudela, Matthew Taynor, Grace Seo, Tyler Scodnick, Brian O’Hanlon, Daniel Farkas, Bruno Sardenberg, Thiago Soligo, Carlos Lara, José Rivera
OPEN OCEAN AQUACULTURE DEVELOPMENTS IN THE AMERICAS AND THE CARIBBEAN

9:00  Alan Everson
FEEDING THE FUTURE: MAXIMIZING THE POTENTIAL FOR OFFSHORE AQUACULTURE IN THE U.S. PACIFIC ISLANDS, WHILE MINIMIZING THE RISKS

9:15  Marie Tarnowski, Geoff Walton, Edd Brooks, Daniel Benetti
DEVELOPING SUSTAINABLE OPEN OCEAN AQUACULTURE IN THE BAHAMAS

9:30  Sebastian Belle
THE DEVELOPMENT OF EFFECTIVE BEST MANAGEMENT PRACTICES FOR CAGE CULTURE

9:45  Neil Anthony Sims
RULES, REGULATIONS, CERTIFICATION, OCEAN ACIDIFICATION AND AGRONOMY – WHAT IS AN OCEAN STEWARD TO DO?

10:00 BREAK

10:30  Carol Price, James Morris
MARINE CAGE CULTURE AND THE ENVIRONMENT

10:45  Jack Rensel, Dale Kiefer, Frank O’Brien
MYTHS, REALITIES AND TRENDS OF COMPUTER MODELING OF AQUACULTURE

11:00  Kenneth L. Riley, Carol S. Price, James A. Morris Jr.
ENVIRONMENTAL IMPACTS OF MARINE OFFSHORE AQUACULTURE SYSTEMS – EVALUATING MODELS FOR SITE SELECTION AND SPATIAL PLANNING

11:15  Aaron Welch, Gary Hitchcock, Angela Knapp, Chris Kelble, Daniel Benetti
THE FATE OF NUTRIENTS DISCHARGED FROM AN OFFSHORE AQUACULTURE FACILITY

11:30  Joseph J. Myers
ADZ: (A’DÉ’ZÉ) ACRO. [USA-NJ] – 1. A TOOL FOR SHAPING AQUACULTURE IN NEW JERSEY

11:45  Gavin Key, Neil Sims
OFF THE DEEP END: A PROGRESS REPORT ON THE PUSH FOR MARICULTURE “OVER THE BLUE HORIZON”
12:00 Ken Robertson, Koji Tamura
DEVELOPMENT AND USE OF SHARK RESISTANT AQUACULTURE CONTAINMENT NETS

12:15 Langley Gace
RECENT EXPERIENCES WITH COPPER-ALLOY MESH IN OFFSHORE AQUACULTURE

12:30 LUNCH

1:30 Michael Chambers, Jon Bunker, Win Watson III, W. Huntting Howell, Judson DeCew, Jessica Cranney, Chris Rillahan, Pal Lader, Kevin Frank, Erik Høy
FIELD MEASUREMENTS OF STEELHEAD TROUT Oncorhynchus mykiss DISTRIBUTION, SWIMMING BEHAVIOR AND RESPONSE TO CURRENT EXPOSURE IN A SEA CAGE

1:45 Soxi Lee, Neil Hartstein, Andrew Jeffs
ASSESSMENT OF SUPPLY AND DISPERSAL OF FAECAL WASTE FROM THE SEA-CAGE AQUACULTURE OF SPINY LOBSTERS

2:00 Edward (Ted) Maney Jr., Mark Fregeau, Bill Lee, Jim Blake, David Alves, Scott Lindell
ESTABLISHING AN OFFSHORE MUSSEL FARM IN FEDERAL WATERS IN THE GULF OF MAINE

2:15 Scott Lindell, Bill Silkes, Rick Karney, Emma Green-Beach, Mary Carman, Greg Mataronas, Michael Marchetti, Alec Gale
RESEARCH AND IMPROVED MANAGEMENT OF OFFSHORE MUSSEL Mytilus edulis FARMS IN SOUTHERN NEW ENGLAND

2:30 Ingvar Erlingsson, Bill Silkes
MOORING SYSTEMS; THE FOUNDATION OF ANY NEAR SHORE OR OFFSHORE FARM

2:45 Nicole Kirchhoff, Kirsty Rough, Barbara Nowak
MOVING CAGES FURTHER OFFSHORE: EFFECTS ON SOUTHERN BLUEFIN TUNA T. maccoyii PARASITES, HEALTH AND PERFORMANCE

INTERNATIONAL MARINE SHRIMP ENVIRONMENTAL GENOMICS INITIATIVE (IMSEGI)
Saturday, February 23  8:30 - 3:30  Room 103
Chair: Acacia Alcivar-Warren

8:30 Acacia Alcivar-Warren
INTRODUCTION/WELCOME
IN MEMORIAN JOHNNY CASTRO MONTEALEGRE

8:45 Acacia Alcivar-Warren
ONE HEALTH: METALS, POPs, DIABETES, GMOs, FOOD SAFETY, PUBLIC HEALTH, AND THE MEDICAL PROFESSIONS – WHO IS IN CHARGE?
9:00 Iris Hernandez, Acacia Alcivar-Warren
THE EXCEPTIONALLY HIGH CARBON STOCKS OF MANGROVES AND THEIR POTENTIAL FOR THE GLOBAL MARKET OF CARBON – A REVIEW OF RECENTLY PUBLISHED INFORMATION AND THE RESPONSE OF THE AQUACULTURE INDUSTRY

9:30 Acacia Alcivar-Warren
ENDOCRINE DISRUPTING CHEMICALS (EDCs) IN MANGROVES, SEDIMENTS, WATERS AND AQUATIC ORGANISMS

9:45 Mudjekeewis Santos, Roselyn Aquila, Sweedy Kay Perez, Minerva Ventolero, Benedict Maralit, Billy Joel Catacutan, Ivane Pedrosa-Gerasmio, Aaltair Agmata, Joanne Lacsamana, Apollo Lizano, Angelle Asis, Rey Thomas, Demian Willette
APPLICATIONS OF DNA BARCODING TO FISHERIES MANAGEMENT IN THE PHILIPPINES

10:00 BREAK

10:30 Acacia Alcivar-Warren
ARE RANDOM INSERTS OF IHHNV FRAGMENTS INTO THE SHRIMP GENOME ASSOCIATED WITH METABOLIC DISTURBANCE IN INFECTIOUS AND NON-INFECTIOUS IHHNV?

10:45 Vanvimon Saksmerprome, Kallaya Sritunyalucksana, Thitipon Thammasorn, Sarocha Jitrakorn, Nutcharuee Songsakul, Chantra Saelim, Chompunut Kirdmusik, Theerapong Chutipongsakra, Timothy Flegel, Boonsirm Withychumnarnkul
USING DOUBLE-STRANDED RNA FOR THE CONTROL OF SHRIMP DISEASES IMNV AND LSNV

11:15 Mudjekeewis Santos, Benedict A. Maralit, Minerva Fatimae H. Ventolero, Mary Beth B. Maningas, Edgar C. Amar
TRANSCRIPTOME PROFILE OF THE GILLS OF TIGER SHRIMP Penaeus monodon THAT SURVIVED WSSV CHALLENGE

11:30 Bruno Gomez-Gil, Illiana Espinoza-Valles, Gary Vora
THE GENOME OF THE PATHOGENIC BACTERIUM Vibrio harveyi STRAIN CAIM 1792 AND ITS COMPARISON WITH OTHER STRAINS FROM THE HARVEYI CLADE

12:00 Tirasak Pasharawipas
THE NOVEL CONCEPT OF THE INDUCIBLE VIRAL RECEPTOR TO PREVENT VIRAL INFECTION IN AQUATIC ANIMALS

12:30 LUNCH

1:30 Andrew Ray, John Leffler
BIOFLOC-BASED SHRIMP CULTURE SYSTEMS: ADVANTAGES, CHALLENGES, AND THE STATE OF CURRENT RESEARCH

2:00 Amutha Chinnaiah, Subramanian Periasamy
THE MULTI-FACETED ENDOCRINE DISRUPTIVE EFFECTS IN Oreochromis mossambicus DUE TO CADMIUM EXPOSURE

2:30 Jorge Romero, Pedro Andrade, Diego Alejandro, Carlos Mejia, Acacia Alcivar-Warren
HEALTH RISKS ASSOCIATED TO DIETARY INTAKE OF LOW-LEVEL METALS AND PERSISTENT ORGANIC POLLUTANTS (POPs) IN SEAFOOD
2:45 Diego R. Alejandro, Acacia Alcivar-Warren
THE RISK TO HUMAN HEALTH CAUSED BY BIOACCUMULATION OF METALS IN HAIR OF A COASTAL POPULATION OF ECUADOR

3:00 Oanh Dang Thi Hoang, Tien Tran Viet, Phu Truong Quoc, Phuong Nguyen Thanh
ACUTE HEPATOPANCREATIC NECROSIS SYNDROME (AHPNS) ON FARMED SHRIMP IN THE MEKONG DELTA, VIETNAM

3:30 The Shrimp Epigenome Consortium
THE SHRIMP EPIGENOME PROJECT – TOWARDS UNDERSTANDING SUSCEPTIBILITY TO NEW DISEASES

3:45 ONE HEALTH, ONE WORLD
OPEN DISCUSSION – TRANSGENIC FISH, SHRIMP AND SOYBEAN

FINFISH NUTRITION
Saturday, February 23 8:30 - 3:45 Room 104
Chair: Gibson Gaylord
Sponsor: NOVUS

8:30 Maria G. Mendoza-Rodriguez, Delbert M. Gatlin III
EFFECTS OF VARIOUS LEVELS OF ASH IN THE DIET OF JUVENILE RED DRUM Sciaenops ocellatus

8:45 Ichsan A. Fauzi, Delbert M. Gatlin III
EVALUATION OF ELEVATED DIETARY ALUMINUM AND IRON LEVEL ON RED DRUM Sciaenops ocellatus

9:00 Thomas Welker, Frederic Barrows, Ken Overturf, Gibson Gaylord, Wendy Sealey
ZINC REQUIREMENTS OF RAINBOW TROUT FED FISH MEAL AND PLANT BASED DIETS

9:15 Steven D. Rawles, S. Adam Fuller, Benjamin H. Beck, T. Gibson Gaylord, Frederic T. Barrows
LYSINE OPTIMIZATION OF A COMMERCIAL FISHMEAL-FREE DIET FOR HYBRID STRIPED BASS Morone chrysops × M. saxatilis

9:30 Camilo Pohlenz, Barbara Grisdale-Helland, Ståle J. Helland, Delbert M. Gatlin III
REFINING THE MINIMUM DIETARY LYSINE REQUIREMENT OF JUVENILE RED DRUM FOR MAINTENANCE, MAXIMUM GROWTH AND PROTEIN ACCRETION

9:45 Andreas Lemme, Cláudia Figueiredo-Silva, Dhanapong Sangsue, Suphada Kiriratnikom
EFFICIENCY OF UTILIZATION OF METHIONINE FOR RETENTION BY JUVENILE RED HYBRID TILAPIA Oreochromis niloticus × Oreochromis mossambicus

10:00 BREAK
10:30 Dave Jirsa, D. Allen Davis, Mark Drawbridge
EFFECTS OF SUPPLEMENTAL METHIONINE IN SOY-BASED DIETS FOR WHITE SEABASS *Atractoscion nobilis*

10:45 Bong-Joo Lee, Konrad Dabrowski
ALTERNATIVE STRATEGIES FOR METHIONINE SUPPLMENTATION TO PLANT PROTEIN-BASED DIETS IN ATLANTIC SALMON *Salmo salar* L. ALEVINS

11:00 Michal Wojno, Andreas Lemme, Konrad Dabrowski
EXPLORING THE MECHANISM OF METABOLIC CHANGES DUE TO REPLACEMENT OF PROTEIN WITH FREE AMINO ACIDS IN PURIFIED DIETS FOR COMMON CARP *Cyprinus carpio*

11:15 Joseph Tomasso, Waldemar Rossi, Dale Moxley, Alejandro Buentello, Camilo Pohlenz, Delbert Gatlin
REPLACEMENT OF FISH MEAL WITH PLANT FEEDSTUFFS IN THE DIET OF RED DRUM *Sciaenops ocellatus*: EFFECTS ON PRODUCTION CHARACTERISTICS AND TOLERANCE TO STRESSORS

11:30 Artur N. Rombenso, Curtis Crouse, Jesse T. Trushenski
COMPARISON OF TRADITIONAL AND FERMENTED SOYBEAN MEALS AS ALTERNATIVES TO FISH MEAL IN HYBRID STRIPED BASS FEEDS

REPLACEMENT OF MENHADEN FISH MEAL PROTEIN BY SOLVENT EXTRACTED SOYBEAN MEAL AND SOY PROTEIN CONCENTRATE SUPPLEMENTED WITH L-METHIONINE AND L-LYSINE IN THE DIET OF JUVENILE RED PORGY *Pagrus pagrus*

12:00 Melanie Rhodes, Rebecca Cook, Yangen Zhou, D. Allen Davis, Jesse Chappell, Terry Hanson
BENEFITS OF USING SOY PROTIEN CONCENTRATE IN FEED FORMULATIONS SUPPLEMENTED WITH TAURINE FOR FLORIDA POMPANO *Trachinotus carolinus*

12:15 Luis Hector Hernández Hernández, Mario Alfredo Fernández Araiza, Omar Angeles López, Agustín Carlos Cruz Castro, José Alejandro Medina Gandara
EFFECTS OF DIETS WITH TOTAL REPLACEMENT OF FISHMEAL WITH SOY CONCENTRATE PROTEIN ON THE GROWTH OF RAINBOW TROUT *Oncorhynchus mykiss* UNDER PRACTICAL CONDITIONS

12:30 LUNCH

1:30 Karma Kissinger, Neil Anthony Sims, Tom E. Clemente
TESTING REPLACEMENT OF FISHMEAL AND FISH OIL IN *Seriola rivoliana* DIETS WITH SOY-BASED PROTEIN AND OIL

1:45 Md. Abdul Kader, Mahbuba Bulbul, Shunsuke Koshio, Manaba Ishikawa, Saichiro Yokoyama, Binh Thanh Nguyen, Connie Fay Komilus
EFFECT OF COMPLETE REPLACEMENT OF FISHMEAL BY DEHULLED SOYBEAN MEAL WITH CRUDE ATTRACTANTS SUPPLEMENTATION IN DIETS FOR RED SEA BREAM *Pagrus major*

2:00 Waldemar Rossi Jr., Delbert M. Gatlin III
ASSESSING THE NUTRITIONAL VALUE OF SOYBEAN-BASED FEEDSTUFFS IN THE DIET OF RED DRUM *Sciaenops ocellatus*
2:15  **Karma R. Kissinger**, Alejandro Buentello, Neil A. Sims, Gavin Key, John Schillinger
**INCLUDING A HIGH-PROTEIN, LOW-OLIGOSACCARIDE NON-GMO SOY VARIETY IN DIETS FOR *Seriola rivoliana* IMPROVES GROWTH AND REDUCES COST OF EXPERIMENTAL FEEDS**

2:30  **Alejandro Buentello**, Amy Stinton, Steven Craig, Norman McCowan, John Schillinger
**NUTRITIONAL VALUE OF A HIGH-PROTEIN, LOW-OLIGOSACCARIDE NON-GMO SOY VARIETY TO JUVENILE YELLOW PERCH *Perca flavescens***

2:45  **Drew Davis**, Jorge Suarez, Alejandro Buentello, Daniel Benetti
**APPARENT DIGESTIBILITY COEFFICIENTS OF PROTEIN AND AMINO ACIDS OF A NOVEL NON-GMO VARIETY OF SOYBEAN MEAL FOR JUVENILE COBIA *Rachycentron canadum***

3:00  **Aaron Watson**, Alejandro Buentello, Jorge Saurez, Allen Place
**ANALYSIS OF TWO NON-GMO SOY PRODUCTS AS POTENTIAL FISHMEAL REPLACEMENTS FOR JUVENILE COBIA *Rachycentron canadum***

3:15  **Michael Cremer**, Francisco de la Torre, Jairo Armequita, Lukas Manomaitis, Hsiang Pin Lan, Levy Manalac, Gede Sumiarsa, Yannis Kotzamanis, Jan van Eys
**ON-FARM EVALUATIONS OF A NEW SCHILLINGER GENETICS HIGH PROTEIN AND LOW OLIGOSACCHARIDE SOYBEAN VARIETY AS A PARTIAL FISHMEAL SUBSTITUTE IN DIETS FOR CARNIVOROUS FISH AND SHRIMP**

3:30  **G. Rosenlund**, B. Torstensen, N. Sissener, N. Liland, I. Stubhaug, A. Obach
**ESTIMATION OF THE DIETARY REQUIREMENT OF LONG-CHAIN N-3 FATTY ACIDS IN ATLANTIC SALMON, *Salmo salar* L.**

**PHYSIOLOGICAL INSIGHTS TOWARDS IMPROVING FISH CULTURE III**
Saturday, February 23  8:30 - 3:30  Room 204
Chairs: Brian Small, Matt Rise, Kurt Gamperl, L. Curry Woods III

**Health and Disease – Moderator: Matt Rise**

8:30  **Stewart C. Johnson**
**INTERACTIONS BETWEEN THE NERVOUS SYSTEM AND THE INNATE IMMUNE SYSTEM OF FISH: CONSEQUENCES FOR AQUACULTURE**

9:00  **Gregory Wiens**, Poorna Dharmasri, Laura Stephens, Patty Zwollo, Stephen Kaattari
**SPLEEN SIZE IS AN INDIRECT INDICATOR OF RAINBOW TROUT BACTERIAL COLD WATER DISEASE RESISTANCE**

9:15  **Ian Bricknell**, James Bron, Sarah Barker
**A PHYSIOLOGICAL APPROACH TO VACCINES AGAINST FISH PARASITES**

9:30  **David Marancik**, Timothy Leeds, Gregory Wiens
**THE PATHOPHYSIOLOGY OF BACTERIAL COLD WATER DISEASE IN SELECTIVELY-BRED RAINBOW TROUT**
9:45  Frederick Goetz, Simon MacKenzie, Rebecca Klaper
CYCLODEXTRINS AS NEW IMMUNOSTIMULANTS FOR PROMOTING FISH HEALTH

10:00  BREAK

10:30  Eric Peatman, Lisa Liu, Chao Li, Ruijia Wang, Bradley Farmer, Benjamin Beck
EXPLORING THE IMMUNONUTRITIONAL INTERFACE: HOW DIETARY STATUS AFFECTS MUCOSAL DEFENSES

10:45  Linda Rhodes, Mark Myers, Ronald Johnson
TISSUE AND GASTROINTESTINAL MICROBIOME RESPONSES TO ALTERNATE DIETARY LIPID IN SABLEFISH Anoplopoma fimbria

11:00  Brian Peterson, Eric Peatman, Donald Ourth, Natha Booth, Geoffrey Waldbieser
ROLES FOR MANNOSE BINDING LECTIN AND RHAMNOSE BINDING LECTIN IN CHANNEL CATFISH FED ESSENTIAL OILS AND CHALLENGED WITH Edwardsiella ictaluri

11:15  Matthew Rise, Jennifer Hall, Brian Alcock, Tiago Hori
IMMUNE-RELEVANT GENE EXPRESSION IN ATLANTIC COD Gadus morhua EGGS, EMBRYOS, AND EARLY LARVAE

11:30  Laura M. Braden, Duane E. Barker, Ben F. Koop, Simon R.M. Jones
INSIGHT INTO THE MOLECULAR BASIS OF RESISTANCE AMONG PACIFIC SALMONIDS TO THE ECTOPARASITE Lepeophtheirus salmonis

11:45  Heather Wotton, Sara Purcell, Jennifer Covello, Mark D. Fast
DIFFERENTIAL GENE REGULATION IN THE PARASITIC COPEPOD Lepeophtheirus salmonis DURING HOST SELECTION AND HOST SWITCHING

12:00  Gregory D. Wiens, Yniv Palti*, Roger L. Vallejo, Timothy J. Welch, Timothy D. Leeds, Jason P. Evenhuis, Guangtu Gao, Sixin Liu, Caird E. Rexroad III
MAPPING OF QTL FOR BACTERIAL COLD WATER DISEASE RESISTANCE IN RAINBOW TROUT

12:30  LUNCH

Stress and Environmental Challenges – Moderator: Kurt Gamperl

1:30  Moira M. Ferguson
GENETIC ARCHITECTURE OF ECONOMICALLY IMPORTANT TRAITS IN SALMONID FISHES AND APPLICATIONS TO SELECTIVE BREEDING

2:00  Caird Rexroad, Sixin Liu, Guangtu Gao, Yniv Palti, Gregory Weber, Roger Vallejo
IDENTIFYING GENES AFFECTING STRESS RESPONSE IN RAINBOW TROUT

2:15  Peng Zhang, Ling Lu, Cunming Duan
DEVELOPMENTAL EXPRESSION, PHYSIOLOGICAL REGULATION, AND BIOLOGICAL ACTION OF ZEBRAFISH HYPOXIA-INDUCIBLE FACTOR-3α

2:30  Matt Vijayan, Dinushan Nesan
MATERNAL STRESS AND IMPLICATIONS ON LARVAL DEVELOPMENT: LESSONS FROM ZEBRAFISH

2:45  Lluis Tort, Israel Mauri, Camino Fierro, Rosa Tridico, Mariana Teles
IMMUNE-ENDOCRINE INTERACTION AFTER STRESS EPISODES IN AQUACULTURED FISH
ZEBRAFISH – CONTINUED
Saturday, February 23    8:30 - 3:30    Room 109
Chair: Bobbi Baur
Sponsors: Aquaneering, Zebrafish Husbandry Association

Zebrafish and Aquaculture
8:30  Chao Zhang, Julien A. Sebag, Savannah Y. Williams, Roger D. Cone
STIMULATION OF GROWTH BY MELANOCORTIN-4 RECEPTOR (MC4R) BLOCKADE: POTENTIAL APPLICATIONS IN AQUACULTURE

8:45  Mingyu Li, Lisette Maddison, Wenbiao Chen
OVERNUTRITION INDUCES PANCREATIC ß CELL NEOGENESIS THROUGH PERSISTENT KATP CHANNEL CLOSURE AND ER STRESS IN ZEBRAFISH

9:00  Benjamin Renquist, C. Zhang, S. Y. Williams, R. D. Cone
DEVELOPMENT OF A HIGH-THROUGHPUT ASSAY TO MONITOR METABOLIC RATE IN ZEBRAFISH: FUTURE IMPACT IN AQUACULTURAL SPECIES

9:20  Carl Burger, Lisa Harlan, Jackson Gross, Bill Trevarrow
AN INNOVATIVE, CHEMICAL-FREE ELECTROSEDATION TECHNOLOGY FOR THE ANESTHETIZATION OF LABORATORY ZEBRAFISH

9:40  Bill Trevarrow
ATTEMPTING TO RESOLVE THE BEWILDERING NETWORK OF DANIONIN RELATIONS

10:00  BREAK

Fish Diseases Part II – Coordinated by Dr. Michael Kent
10:30  Michael Kent, Tracy Peterson, Virginia Watral, Karen Guillemin, Erika Mittge
TRANSMISSION OF Mycobacterium marinum IN ZEBRAFISH

10:45  Marcus J. Crim, K. David Farris, Lela K. Riley
MOLECULAR DIAGNOSTIC TESTS FOR THE LABORATORY ZEBRAFISH Danio rerio

11:00  Chris Whippo
MYCOBACTERIA – CHLORINE TREATMENTS, AND RESULTS FROM “CLEANING UP” A FACILITY

11:15  Katrina Murray
BIOSECURITY AT ZIRC: ADAPTING TO NEW PATHOGENS AND IMPORT STRATEGIES
11:30 Kara Maloney
CONTROLLED CHLORINE DISINFECTION WITH EGGS

11:50 Mickie Powell, Robert Lightfoot, Jeff Barry, Stephen Watts
COMPARISON OF DISINFECTING AGENTS FOR ZEBRAFISH Danio rerio EGGS

12:10 Erik Henry
PRACTICAL ROTIFER CULTURE FOR ZEBRAFISH FACILITIES

12:30 LUNCH

Nutrition Mini-session
1:30 Angela Lawton, Gillian Lawrence, Ryan Day
EVALUATING THE EFFECT OF ZEBRAFISH LARVAL DIET ON GENERATION TIME, SEX RATION AND REPRODUCTIVE OUTPUT

1:50 Carrie Barton, Galen Miller, Robert Tanguay
THE FOOD VARIABLE: THE LACK OF DIETARY STANDARDIZATION AND THE EFFECT ON RESEARCH OUTCOMES

2:10 Stephen Watts
DIETARY PROTEIN SOURCE INFLUENCE ON GROWTH AND BODY COMPOSITION IN ZEBRAFISH

2:30 BREAK

3:00 Hugh Hammer, Stephen Watts, Samuel Cartner, Susan Farmer, Mark Rath, Jim Jolly, Dennis Sears, Mario Gallardo, Stewart Davis
AN UPDATE ON ZEBRAFISH HUSBANDRY EDUCATION EFFORTS BY GADSDEN STATE COMMUNITY COLLEGE, THE UNIVERSITY OF ALABAMA AT BIRMINGHAM, AND A COMMUNITY OF SCHOLARS

3:20 Sally Westlake
AALAS CERTIFICATION AND CERTIFICATE PROGRAMS - THE FUTURE OF TECH TRAINING?

3:50 TBD

4:10 Lauren Pandolfo
PANEL DISCUSSION

4:30 TOWN HALL MEETING
8:30  INTRODUCTION

8:45  Emmanuel Ajaní, Bamidele Omitoyin, O. T. Olasatan, Elisha Friday Osho
EFFECTS OF STOCKING RATIO ON GROWTH PERFORMANCE AND NUTRIENT
UTILISATION OF NILE TILAPIA AND AFRICAN CATFISH STOCKED IN HAPA UNDER
POLYCULTURE ARRANGEMENT

9:00  Asaad Mohamed, Rex Ferdinand M. Traifalgar
DIETARY ADMINISTRATION OF DEHYDROEPIANDROSTERONE HORMONE
INFLUENCES SEX DIFFERENTIATION OF HYBRID RED TILAPIA O. niloticus ×
O. mossambicus LARVAE

9:15  Iris Fynn, Yaw Ansah, Emmanuel Frimpong, Daniel Adjei-Boateng, Stephen Amisah
DIRECT AND INDIRECT EFFECTS OF MANAGEMENT PRACTICES ON POND WATER
QUALITY AND GROWTH OF NILE TILAPIA Oreochromis niloticus

9:30  Sebastian Chenyambuga, Ester Meiluidie, Hieromin Lamtane, Nazael Madalla,
Berno Mnembuka, Rebecca Lochmann, Kwamena Quagrainie
COMPARATIVE EVALUATION OF GROWTH PERFORMANCE AND SURVIVAL RATE
OF THREE TILAPIA SPECIES CULTURED IN PONDS OF SMALL-SCALE FARMERS
IN TANZANIA

9:45  Angelito dela Cruz, Rosie Abalos
REPRODUCTIVE CHARACTERISTICS OF THE HYBRID, MOLOBICUS TILAPIA
STRAIN IN FRESH AND BRACKISH WATERS

10:00  BREAK

10:30  Abdul Mateen, Iftikhar Ahmed
ANDROGEN SEX REVERSAL; SUBSEQUENT GROWTH AND MEAT QUALITY OF
NILE TILAPIA Oreochromis niloticus

10:45  Paul McCain, Ahmed Mustafa
CAPSAICIN’S EFFECTS ON GROWTH AND HEALTH OF TILAPIA Oreochromis
niloticus AND COHO SALMON Oncorhynchus kisutch

11:00  Carlos León
CONSIDERATIONS OF DESIGN AND IONIC BALANCE OF A HYBRID
RECIRCULATING AQUACULTURE TECHNIQUE USING COMMERCIAL AQUAPONICS,
BIOFLOC, ALGAE AND/OR NITRIFICATION SYSTEMS FOR TILAPIA CULTURE

11:15  Stephen Amisah, Daniel Adjei-Boateng, Emmanuel Anokye Frimpong,
Yaw Boamah Ansah
EFFECT OF WATER RE-USE AND FEED TYPE ON THE GROWTH PERFORMANCE OF
NILE TILAPIA Oreochromis niloticus
11:30 Tom Kasiga, Rebecca Lochmann, Harold Phillips, Todd Sink
EFFECTS OF DIETS CONTAINING Moringa oleifera AND Leucaena leucocephala LEAF MEALS IN PLACE OF SOYBEAN MEAL ON GROWTH PERFORMANCE, LYSOZYME, AND TOTAL INTESTINAL PROTEOLYTIC ENZYME ACTIVITY OF JUVENILE NILE TILAPIA Oreochromis niloticus

11:45 Kevin Fitzsimmons, Pamila Ramotar, Brunno Cerozi, Tekie Anday
TILAPIA PRODUCTION AND MARKET SITUATION IN 2013

12:15 Pamila Ramotar, Kevin Fitzsimmons, Wendy Sealey, Fredrick Barrows
CAMELINA MEAL AS A SUBSTITUTE FOR FISHMEAL IN TILAPIA DIETS

12:30 LUNCH

1:30 TBD

1:45 W. W. Falls, H. Geissler, P. Reasons, J. Guerra, P. Rubec, Mark Homesteader, D. Luttrell
SUSTAINABLE AQUAPONICS: A TOOL FOR EDUCATION, FOOD, AND RESEARCH

2:00 K. Fitzsimmons
INTRODUCTION TO AMERICAN TILAPIA ASSOCIATION

2:15 W. Varano
STATUS OF TILAPIA AQUACULTURE IN THE USA

2:30 K. Fitzsimmons
ATA FINANCIAL REPORT AND ISTA 10

3:00 W. Varano
ELECTIONS

PRACTICAL DEVELOPMENTS IN AQUAFEEDS - FEED ADVANCES TO BOOST PROFITABILITY
Saturday, February 23  9:30 - 4:00  Room 213
Chair: Suzi Dominy
Sponsor: Aquafeed.com

9:30 Suzi Dominy
WELCOME, INTRODUCTIONS

9:45 Alex Obach
TRENDS AND ADVANCES IN FEED FORMULATION – TOWARDS LOWEST COST FISH PRODUCTION

10:15 Eric Bell
EVALUATION OF NEW INGREDIENTS

10:45 DISCUSSION & BREAK

11:00 Joe Kearns
EXTRUSION OPTIONS FOR PRODUCT SPECIFIC AQUAFEEDS
11:30 Finn Normann Jensen
DRYING ENERGY EFFICIENCY AND UNIFORMITY IN AQUATIC FEEDS

12:00 DISCUSSION & LUNCH

1:30 Pedro Encarnacao
PHYTOGENICS: A NEW TOOL TO IMPROVE PERFORMANCE IN AQUATIC SPECIES

2:00 Gilberto Hernández González
POTENTIAL OF EXTRA NUTRITIONAL ADDITIVES TO KEEP SHRIMP HEALTHY AND FARMERS WEALTHY

2:30 DISCUSSION & BREAK

2:45 Craig Browdy
FEED COST SAVINGS AND IMPROVED PERFORMANCE WITH 2-HYDROXY-4-(METHYLTHIO) BUTANOIC ACID (HMTBA) SUPPLEMENTATION

3:15 Steven Hart
THE FUTURE FOR SOY IN AQUACULTURE FEED DEVELOPMENT – ADDRESSING BASIC AND APPLIED RESEARCH NEEDS TO MEET THE GROWING DEMAND FOR AQUACULTURE FEEDS?

3:45 DISCUSSION

BIOFLOCS
Saturday, February 23  10:30 - 3:30  Room 205
Chair: Yoram Avnimelech
Sponsor: Aquacultural Engineering Society

10:30 Nyan Taw
RECENT DEVELOPMENTS OF BIOSECURITY AND BIOFLOC TECHNOLOGY

10:45 Tzachi Samocha, Timothy C. Morris, Andre Braga, Eudes S. Correia, Jeet K. Mishra, Josh Burger, Mike Handy
USE OF AN INTENSIVE INDOOR BIOFLOC-DOMINATED NURSERY SYSTEM AT THE TEXAS AGRILIFE RESEARCH MARICULTURE LAB: 2003-2012

11:00 Wilson Wasielesky, Carlos Gaona, Marcos Almeida, Fabiane Serra, Dariano Krummenauer, Geraldo Fôes, Luis Poersch
EFFECT OF SUSPENDED SOLIDS ON REARING OF Litopenaeus vannamei BIOFLOC TECHNOLOGY CULTURE SYSTEM

11:15 Jeffrey Brunson, Deliah Arrington, John Leffler
EVALUATION OF DIFFERENT SAMPLING METHODS TO MONITOR POPULATION SIZE IN BIOFLOC-BASED, INTENSIVE SHRIMP CULTURE SYSTEMS

11:30 Tzachi M. Samocha, Andre Braga, Timothy C. Morris, Neil F. Gervais
ARTIFICIAL Artemia AS A FEED SUPPLEMENT FOR NURSERY PHASE Litopenaeus vannamei CULTURE IN BIOFLOC-DOMINATED ZERO-EXCHANGE RACEWAYS
11:45 Bartholomew Green, Kevin K. Schrader
EFFECT OF INITIAL BIOMASS ON CHANNEL CATFISH YIELD AND WATER QUALITY IN A BIOFLOC TECHNOLOGY PRODUCTION SYSTEM

12:00 Heather Joesting, Patrick Biber, Reginald Blaylock
SHRIMP BIOFLOC SOLIDS AS AN ALTERNATIVE TO COMMERCIAL FERTILIZER IN COASTAL SALT MARSH PLANT NURSERY PRODUCTION

12:15 Timothy C. Morris, Andre Braga, Vita Magalhaes, Bob Advent, Tzachi M. Samocha
USE OF A NON-VENTURI AIR INJECTION SYSTEM FOR PRODUCTION OF Litopenaeus vannamei IN BIOFLOC-DOMINATED ZERO-EXCHANGE RACEWAYS

12:30 LUNCH

1:30 Tzachi M. Samocha, Vita Magalhaes, Andre Braga, Timothy C. Morris, Tim Markey
COMPARISON OF TWO COMMERCIAL DIETS FOR THE PRODUCTION OF MARKETABLE Litopenaeus vannamei IN SUPER-INTENSIVE BIOFLOC-DOMINATED ZERO-EXCHANGE RACEWAYS

1:45 Tzachi Samocha, Wujie Xu, Timothy C. Morris, David H. Stafford
THE EFFECT OF DIFFERENT C:N RATIOS AND TWO COMMERCIAL DIETS ON SELECTED WATER QUALITY INDICATORS, NITROGEN BUDGETS, AND GROWTH PERFORMANCE OF Litopenaeus vannamei JUVENILES CULTURED AT HIGH DENSITY IN A BIOFLOC-DOMINATED ZERO-EXCHANGE OUTDOOR TANK SYSTEM

2:00 Gabriele Lara, Luís Poersch, Wilson Wasielesky Jr.
THE USE OF DIFFERENT QUANTITIES OF ARTIFICIAL SUBSTRATES AND ITS ROLE IN NITRITE METABOLISM IN THE Litopenaeus vannamei BIOFLOC CULTURE SYSTEM

2:15 Diana Aguilera, Alejandra Prieto-Davo, Karla Escalante, Gérard Cuzon, Gabriela Gaxiola
USE OF PROBIOTIC IN AQUACULTURE AND ITS EFFECT ON BACTERIA OF THE GENUS Vibrio PRESENT IN CLEAR WATER AND BIOFLOC SYSTEMS

2:30 In Kwon Jang, Su-Kyoung Kim, Young-Rok Cho, Guo Qiao
EFFECT OF BIOFLOC WITH DIFFERENT CONCENTRATION ON GROWTH AND IMMUNE ACTIVITY OF PACIFIC WHITE SHRIMP Litopenaeus vannamei JUVENILE

2:45 Julie Ekasari, Muhammad Zairin Jr., Widanarni Widanarni, Dian Utami Putri, Nora Putri Sari, Enang Surawidjaja, Peter Bossier
REPRODUCTIVE PERFORMANCE OF NILE TILAPIA BROODSTOCK REARED WITH BIOFLOCS TECHNOLOGY APPLICATION

3:00 Eleonor A. Tendencia, Marc Verdegem, Roel Bosma
GREENWATER SYSTEM: BENEFITS, MECHANISMS, AND CHALLENGES

3:15 Yoram Avnimelech
DISCUSSION - SPECIFIC EFFECTS OF BIOFLOCS ON FISH AND SHRIMP
UNDESIRABLE FLAVOR IN RECIRCULATING AQUACULTURE SYSTEMS
Saturday, February 23    1:30 - 3:30    Room 206
Chair: George J. Flick, Jr.

1:30  **Gregory Boardman**, George Flick
CAUSE AND CONTROL OF OFF-FLAVOR AND ODOR IN AQUACULTURAL SYSTEMS

1:45  **Kevin K. Schrader**
TYPES AND SOURCES OF PREHARVEST OFF-FLAVORS IN SALMONIDS FROM RECIRCULATING AQUACULTURE SYSTEMS

2:00  **George Flick**, Lori Marsh
BIODEGRADATION OF 2-METHYLISOBORNEOL AND GEOSMIN BY AQUATIC BACTERIA IN RECIRCULATING AQUACULTURE SYSTEMS

2:15  **Gary Burr**, William Wolters, Kevin Schrader, Steven Summerfelt
IMPACT OF DEPURATION OF EARTHY-MUSTY OFF-FLAVORS ON FILLET QUALITY OF ATLANTIC SALMON *Salmo salar* CULTURED IN A RECIRCULATING AQUACULTURE SYSTEM

2:30  **G. Scott Snyder**
DOES FEED, FEEDING AND NUTRITION INFLUENCE UNDESIRABLE FLAVOR IN RECIRCULATING AQUACULTURE SYSTEMS?

2:45  **David Kuhn**, Linda Granata
ACCEPTABILITY OF PACIFIC WHITE SHRIMP *Litopenaeus vannamei* GROWN IN A RECIRCULATING AQUACULTURE SYSTEM

3:00  **George Flick**, Linda Granata, David Kuhn
THE PRESENCE OF UNDESIRABLE FLAVOR COMPOUNDS IN PACIFIC WHITE SHRIMP *Litopenaeus vannamei* AND TILAPIA *Oreochromis niloticus* GROWN IN RECIRCULATING AQUACULTURE SYSTEMS

3:15  **George Flick**
ROUNDTABLE DISCUSSION

CERTIFICATION
Saturday, February 23    1:30 - 3:30    Room 211
Chair: Michael Tlusty

1:30  **Randall Brummett**, Michael Tlusty, George Chamberlain, Chris Mann, José Villalón, John Forster, Barry Costa-Pierce, Kai Lorenzen, Ian Boyd, Max Troell, Dave Little, Yngve Torgersen, Malcolm Beveridge
INVESTING IN SUSTAINABLE AQUACULTURE

1:45  **Carole Engle**, Nathan Stone
U.S. REGULATORY STANDARDS: HOW DO CERTIFICATION PROGRAMS COMPARE?

2:00  **Brett Koonse**
AQUACULTURE FOOD SAFETY AUDITS: WHAT TO LOOK FOR
2:15 Prathapachandra Shetty
SEAFOOD TRACEABILITY – AN IMPORTANT ISSUE IN AQUACULTURE CERTIFICATION

2:30 Mario Velasco, Valeska Weymann
GLOBALG.A.P. AQUACULTURE CERTIFICATION: ONE STANDARD INCLUSIVE OF MANY SPECIES FOR THE ENTIRE PRODUCTION CHAIN

2:45 Jeffrey Peterson
UNDERSTANDING AQUACULTURE CERTIFICATION

3:00 Chris Ninnes
ASC: CERTIFICATION FOR THE FUTURE

3:15 David Little
EMERGING STANDARDS FOR ASIAN AQUACULTURE: SOME PRELIMINARY LESSONS FROM THE FP-7 FUNDED SUSTAINING ETHICAL AQUACULTURE TRADE (SEAT) PROJECT

3:30 Michael F. Tlusty, Heather Tausig, Herman Wisse, Aldin Hilbrands, John Connelly
THE GLOBAL SUSTAINABLE SEAFOOD INITIATIVE – A PROGRAM TO HELP INDUSTRY STAKEHOLDERS UNDERSTAND THE MULTITUDE OF SEAFOOD CERTIFICATION PROGRAMS IN THE MARKETPLACE

HISTORY OF AQUACULTURE
Saturday, February 23  1:30 - 3:30  Room 201
Chairs: John Nickum, John Kraeuter, Paul Sandifer

History of Shellfish Aquaculture – Moderator: John Kraeuter
1:30 John Kraeuter, Beal Brian
PIONEERS OF HARD Mercenaria AND SOFT-SHELL Mya CLAM AQUACULTURE

1:45 William Dewey, Neil Bourne
MANILA CLAM Venerupis philippinarum CULTURE AND HARVEST ON THE WEST COAST OF NORTH AMERICA

2:00 Joth Davis
HISTORY OF GEODUCK FISHERIES AND AQUACULTURE IN NORTH AMERICA

2:15 Richard A. Lutz, Carter Newell
HISTORY OF MUSSEL CULTURE IN THE UNITED STATES

2:30 Peter A. Cook
THE HISTORY AND PIONEERS OF ABALONE CULTURE

2:45 Huayong Que, Guofan Zhang, Fusui Zhang
HISTORY AND STATUS OF MARINE MOLLUSCAN AQUACULTURE IN CHINA

3:00 William Dewey, Keith A. Cox
WILLAPPA BAY OYSTERS: A DOCUMENTARY OF THE 160-YEAR-OLD WILLAPPA BAY WASHINGTON, USA OYSTER INDUSTRY TOLD THROUGH THE EYES OF GROWERS
Two friends, a fish ecologist and an ecological engineer, take a scientific voyage along the sparkling coast of Turkey to pull back the cover on modern fish farming. They experience the tragedy of tuna ranching, a successful nursery for sea bass, and trout ponds elegantly terraced into a hillside, before finding hope for the future at a traditional carp pond.

MOVIE: “FISH MEAT: CHOOSE YOUR FARM WISELY”
Saturday, February 23     1:30 - 3:00     Room 202
Chair: Sarah Curry

ACIDIFICATION
Saturday, February 23     1:30 - 3:30     Room 208
Chair: George Waldbusser

1:30  Libby Jewett
NOAA OCEAN ACIDIFICATION PROGRAM: VISION FOR WORKING WITH COASTAL SHELLFISH AQUACULTURE INDUSTRY

1:45  Elizabeth L. Brunner, George G. Waldbusser, Burke Hales, Brian A. Haley, Fred G. Prahl
A BIOCHEMICAL STUDY OF Crassostrea gigas LARVAE TO UNDERSTAND MECHANISMS OF ACIDIFICATION STRESS

2:00  Emma Timmins-Schiffman, Carolyn Friedman, Steven Roberts
FROM GENES TO PROTEINS: OCEAN ACIDIFICATION IMPACTS ON THE PHYSIOLOGY OF THE PACIFIC OYSTER Crassostrea gigas

2:15  April Croxton, Gary H. Wikfors
UNDERSTANDING THE HOMEOSTATIC MECHANISMS OF BIVALVE HEMOCYTES FOLLOWING IN VITRO ACID EXPOSURE

2:30  Iria Gimenez, George G. Waldbusser, Burke Hales, Chris Langdon, Rebecca Mabardy.
STRESS IN A CHANGING ENVIRONMENT: TOWARDS THE DEVELOPMENT OF A CONCEPTUAL FRAMEWORK FOR REALISTIC METRICS OF OCEAN ACIDIFICATION STRESS ON BIVALVE LARVAE

2:45  George Waldbusser, Burke Hales, Christopher Langdon, Brian Haley, Heather Bergschneider, Paul Schrader, Matthew Gray, Elizabeth Brunner, Iria Gimenez, Rebecca Mabardy, Cale Miller, Victoria Klein
ON THE IMPORTANCE OF UNDERSTANDING THE RESPONSE OF BIVALVE LARVAE TO DIFFERENT CARBONATE SYSTEM PARAMETERS

3:00  Brad Warren, Betsy Peabody
LESSONS FROM WASHINGTON’S BLUE RIBBON PANEL ON OCEAN ACIDIFICATION
1:30  Eric Saillant, Jessica Brown-Parker, Marine Guillard, Carly Somerset
INFERENCES ON PARENTEAGE AND ESTIMATION OF THE EFFECTIVE NUMBER OF
BREEDERS IN CAPTIVE BRED SPOTTED SEATROUT FOR STOCK ENHANCEMENT

1:45  Azhaguchamy Muthukumaran
INDUCTION OF GYNOGENESIS IN ASIAN CATFISH *Clarias batrachus* BY USING UV
IRRADIATED HETELOGOUS SPERM OF *Heteropneustes fossilis*

2:00  Ammu Anil, Boris Gomelsky, Kyle Schneider
APPLICATION OF MICROSATELLITE DNA MARKERS IN STUDIES ON INDUCED
GYNOGENESIS AND POLYPLOIDY IN KOI × GOLDFISH HYBRID FEMALES

2:15  Boris Gomelsky, Kyle Schneider
SCALE TRANSPARENCY MUTATION IN ORNAMENTAL (KOI) CARP

2:30  Brandon Baumhoer, Anita M. Kelly
PRODUCTION AND POPULATION DYNAMICS OF HYBRID CRAPPIE *Pomoxis nigromaculatus* × *P. annularis* AND TRIPLOID HYBRID CRAPPIE

2:45  Zhigang Shen, Hanping Wang, Hong Yao, Nour Eissa, Paul O’Bryant, Dean Rapp
GENOTYPE BY TEMPERATURE AND HORMONE INTERACTIONS ON SEX
DETERMINATION IN BLUEGILL *Lepomis macrochirus*

3:00  L. Berg, S. Gatrell, B. Cleveland, J. Grimmett, P. Turk, T. Leeds, G. Weber,
K. Semmens, K. Blemings
EFFECTS OF GENETIC SELECTION AND FEEDING TECHNIQUES ON GROWTH OF
RAINBOW TROUT *Oncorhynchus mykiss*

3:15  Teshome Bizuayehu, Lanes Carlos, Babiak Joanna, Jorge Fernandes,
Johansen Steinar, Babiak Igor
PROSPECT OF MICRNORNAS IN AQUACULTURE FISH SPECIES

3:30  Jianshe Zhang, Wuying Chu
TRANSCRIPTIONAL PROFILE OF THE WHITE MUSCLE AND FUNCTIONS OF
STRUCTURAL GENES IN MUSCLE DEVELOPMENT OF THE CHINESE MANDARIN
FISH
1:30  Suman Bhusan Chakraborty  
EFFECTS OF METHYLTESTOSTERONE, TAMOXIFEN, GENISTEIN AND *Basella alba* EXTRACT ON MASCULINIZATION OF GUPPY *Poecilia reticulata*

1:45  Marlon Greensword, Millie Williams, Ron Malone  
ESTIMATING BOD5 AND NITROGEN LOADING FROM DECAYING EGG MASS

2:00  Craig Watson, Eric Cassiano, Matthew Wittenrich, Roy Yanong, Kevin Barden, Judy St. Leger  
RISING TIDE CONSERVATION INITIATIVE: AN INTEGRATED APPROACH TO ADVANCING THE COMMERCIAL PRODUCTION OF MARINE ORNAMENTAL FISH

2:15  Kevin Barden, Matthew Wittenrich, Eric Cassiano  
LINKING TEMPERATURE-MEDIATED MORPHOLOGY WITH FEEDING PERFORMANCE AND MORTALITY THROUGH PELAGIC LARVAL DEVELOPMENT OF THE OCELLATED DRAGONET *Synchiropus ocellatus*

2:30  Junda Lin, Qiang Lin  
SEAHORSE AQUACULTURE: FROM RESEARCH TO PRODUCTION

2:45  Dong Zhang, Fei Yin  
LIPID METABOLIC RESPONSE, PEROXIDATION AND ANTIOXIDANT DEFENCE STATUS OF JUVENILE LINED SEAHORSE *Hippocampus erectus* FED WITH HIGHLY UNSATURATED FATTY ACIDS ENRICHED *Artemia* NAUPLII

3:00  Junda Lin, Dong Zhang, Jing Zhu, Andy Rhyne  
REPRODUCTIVE BIOLOGY OF *Lysmata* SHRIMP

3:15  Matthew DiMaggio, Cortney Ohs, Andrew Palau, Jason Broach  
EVALUATION OF CULTURE TECHNIQUES AND SPAWNING SUBSTRATES FOR BALLYHOO *Hemiramphus balao*
8:30  Melissa W. Radcliffe, Lisa Guy, Melissa Grant, Dakota Abbott, Stephanie T. Alexander, Bob Carey, Gregory Radcliffe, E. Alan Roache, Emily Vlahovich, Steven Weschler, Stacey Willey, Donald W. Meritt
ASSESSING OYSTER LARVAL PERFORMANCE USING AN AUTOMATED ALGAL FEEDING SYSTEM

8:45  Abbas Matinfar, Amin Adibpasand, Mohammad Matinfar
THE EFFECTS OF PROTEIN LEVELS ON MOLT SYNCHRONIZATION OF Astacus leptodactylus

9:00  Lalith K. Dammannagoda, A. Pavasovic, David A. Hurwood, Peter B. Mather
EFFECTS OF SOLUBLE DIETARY CELLULOSE ON SPECIFIC GROWTH RATE, SURVIVAL AND DIGESTIVE ENZYME ACTIVITIES IN THREE FRESHWATER CRAYFISH Cherax SPECIES

9:15  Menghong Hu, Youji Wang, Qigen Liu
DIETARY PROTEIN AND ENERGY REQUIREMENTS OF JUVENILE ASIAN HORSESHOE CRABS Tachypleus tridentatus AND Carcinoscorpius rotundicauda

9:30  Sten Ivar Siikavuopio, Kjell Midling, Philip James
EFFECTS OF TEMPERATURE ON FEED INTAKE, GROWTH AND OXYGEN CONSUMPTION OF THE RED KING CRAB Paralithodes camtschaticus FED MANUFACTURED DIET

9:45  Victoria Gibbs, Laura Heflin, J. Christopher Taylor, Addison Lawrence, Stephen Watts
EFFECTS OF FEED RATION ON GROWTH AND GONAD PRODUCTION IN SMALL SEA URCHINS Lytechinus variegatus

10:00 BREAK

11:00  Lacey N. Dennis, Mickie L. Powell, Robert A. Angus, Stephen A. Watts
EFFECTS OF FEED QUALITY AND QUANTITY ON SEA URCHIN SCAT

11:15  J. Christopher Taylor, Addison L. Lawrence, Stephen A. Watts
LIGHT SPECTRA AND GONAD COLOR IN THE SEA URCHIN Lytechinus variegatus
SHRIMP PRODUCTION
Sunday, February 24     8:30 - 12:30     Room 205
Chairs: Luke Roy, Andrew Ray

8:30  David Teichert-Coddington
COMMERCIAL PRODUCTION OF INLAND SHRIMP: MAJOR CONSIDERATIONS IN ALABAMA, USA

8:45  Diana Wischral Mutti, Bruno Sosa, Wilson J. M. Dornelles, José F. S. Felice
INLAND PRODUCTION OF Litopenaeus vannamei IN A ZERO EXCHANGE SYSTEM IN SOUTHERN BRAZIL

9:00  Andrew Ray, Jeffrey Lotz
A PRELIMINARY COMPARISON OF CLEARWATER RAS AND BIOFLOC-BASED SHRIMP Litopenaeus vannamei CULTURE SYSTEMS

9:15  Ling Cao, Lutgarde Raskin, James Diana, Gregory Keoleian
FARMING SHRIMP IN THE UNITED STATES: IS LOCAL BETTER?

9:30  Lan-mei Wang, Addison Lawrence, Yun-long Zhao
EFFECTS OF DIETARY PROTEIN LEVELS ON SURVIVAL AND GROWTH OF Litopenaeus vannamei AND WATER QUALITY IN RECIRCULATING AND ZERO EXCHANGE WATER SYSTEMS

9:45  Lan-mei Wang, Addison Lawrence, Yun-long Zhao
EFFECTS OF DIETARY VITAMINS, CU AND ZN LEVELS ON SURVIVAL AND GROWTH OF Litopenaeus vannamei AND WATER QUALITY IN RECIRCULATING AND ZERO EXCHANGE WATER SYSTEMS

10:00 BREAK

11:00  Dan Taylor, David Kuhn
EFFECTS OF POTASSIUM LEVELS ON SHRIMP Litopenaeus vannamei IN RECIRCULATING AQUACULTURE SYSTEMS

INFLUENCE OF THE AQUEOUS NA+:K+ RATIO AND WATER TEMPERATURE ON GROWTH AND SURVIVAL OF Litopenaeus vannamei REARED IN LOW SALINITY WATER

The Influence of Feeding Frequency on Litopenaeus vannamei BFT Nursery Phase

11:45  Regis Bador, Peter Blyth, Ross Dodd
UNDERWATER SOUND ANALYSIS TECHNOLOGY APPLIED TO MONITOR SHRIMP FEEDING BEHAVIOR AND ADJUST FEEDING STRATEGY

12:00  Addison Lawrence, Frank Castille, Jack Crockett
GROWTH CURVES AND FEED CURVES FOR THE NEW GENETICALLY SELECTED HIGH GROWTH LINES FOR THE PACIFIC WHITE SHRIMP Litopenaeus vannamei

12:15  Aksya Sarkar, M. Mahfujul Haque, Francis Murray, David C. Little
IMPLEMENTATION OF TRACEABILITY IN ORGANIC SHRIMP FARMING IN BANGLADESH
CONSERVATION / RESTORATION AQUACULTURE SHELLFISH
Sunday, February 24     8:30 - 12:30     Room 203
Chairs: Steve Allen, Peter Kingsley-Smith

8:30 Peter R. Kingsley-Smith, Blaik Pulley Keppler, John W. Leffler
ADOPTING A COMMUNITY-BASED, COLLABORATIVE SCIENCE-BASED, INTENDED
USER-DRIVEN APPROACH TO IMPLEMENTING OYSTER REEF RESTORATION
WITHIN THE ACE BASIN NERR IN SOUTH CAROLINA, USA

8:45 Steven Hall, Jon Risinger, Matthew Byrum, Tyler Ortego
CULTURING EASTERN OYSTER Crassostrea virginica VIA COASTAL BIOENGINEERING

9:00 Steven Allen, Stephanie Westby, Claire O’Neil, Angela Sowers, Eric Weisberrrger
DEVELOPING A BLUEPRINT FOR TRIBUTARY-WIDE OYSTER RESTORATION IN
THE MARYLAND PORTION OF THE CHESAPEAKE BAY

9:15 Adriane Michaelis, Hillary Lane, Steve Allen, Kennedy Paynter
A METHOD FOR EFFECTIVELY IDENTIFYING POTENTIAL OYSTER Crassostrea
virginica RESTORATION SITES IN THE NORTHERN CHESAPEAKE BAY

9:30 Kennedy Paynter, Adriane Michaelis, Hillary Lane
THE RELATIONSHIP BETWEEN RESTORATION SITE QUALITY AND EASTERN
OYSTER Crassostrea virginica DENSITY AND BIOMASS IN THE NORTHERN
CHESAPEAKE BAY

9:45 Hillary Lane, Adriane Michaelis, Vince Politano, Kennedy Paynter
THE EFFECTIVENESS OF HYDRAULIC PATENT TONG SURVEYS TO CHARACTERIZE
Crassostrea virginica POPULATION DEMOGRAPHICS OVER TIME ON FOUR BARS
IN THE NORTHERN CHESAPEAKE BAY

10:00 BREAK

11:00 Allison Fitzgerald, Chester Zarnoch, William Wallace
RESTORATION WITHIN AN URBANIZED ENVIRONMENT: EFFECTS OF
ANTHROPOGENIC INPUTS ON THE HEALTH OF JUVENILE Crassostrea virginica

11:15 Aswani K. Volety, Julien Vignier, Marine Fuhrmann, Marie Cuesta, Helene Chouzenoux,
Emily Nickols, Peter Doering, Patricia Gorman, Barbara Welch, Liberta Scotto
EFFECTS OF SALINITY ON THE EARLY LIFESTAGES OF OYSTERS Crassostrea
virginica: IMPLICATIONS FOR FRESHWATER INFLOW MANAGEMENT IN
SOUTHWEST FLORIDA ESTUARIES

11:30 Cecily Steppe, David Fredriksson, Louise Wallendorf, Robert Mayer,
Stephanie Westby
DIRECT SETTING OF Crassostrea virginica LARVAE ON TARGETED SITES IN TIDAL
CREEKS; POTENTIAL APPLICATIONS FOR AQUACULTURE AND RESTORATION

11:45 David Fredriksson, Cecily Steppe, Louise Wallendorf, Robert Mayer
THE DESIGN AND DEPLOYMENT OF A CONTAINMENT BARRIER SYSTEM FOR
IN SITU SETTING OF Crassostrea virginica LARVAE FOR POSSIBLE AQUACULTURE
AND RESTORATION APPLICATIONS

12:00 Maria Rio Naguit, Evelyn Campiseno, Evony Elogsong, Edgar S. Balbuena
LYING-IN HATCHERY: A STRATEGY IN ENHANCING Portunus AND Scylla spp.
POPULATIONS IN MURCIELAGOS BAY, PHILIPPINES
FLATFISH
Sunday, February 24     8:30 - 12:30     Room 211
Chairs: Luis André Sampaio, Charles Bai

8:30 **Sungchul C. Bai**, Jun-Ho Lee, Gunhyun Park, Hyeon Ho Yun
REVIEW ON DIETARY PROTEIN REQUIREMENTS AND P/E RATIOS IN OLIVE FLOUNDER *Paralichthys olivaceus*

9:00 **Seung-han Lee**, Jun-ho Lee, Gun Hyun Park, Hyeon ho Yun, Jin-hyoek Lee, Young-kwang Lee, Sungchul C. Bai
EFFECTS OF DIETARY SELENIUM LEVELS ON MERCURY DETOXIFICATION IN JUVENILE OLIVE FLOUNDER *Paralichthys olivaceus*

9:15 **Luís André Sampaio**, Claudio A. Alvarez Verde, Marcelo Hideo Okamoto
EFFECT OF LIGHT INTENSITY ON GROWTH OF JUVENILE BRAZILIAN FLOUNDER *Paralichthys orbignyanus*

9:30 **Bong-Joo Lee**, Kang-Woong Kim, Cheul-Min An, Kyoung-Duck Kim, Hyon-Sob Han, Taek Jeong Nam, Kyeong-Jun Lee, Sungchul C. Bai
EFFECT OF DIETARY GLYCOPROTEIN EXTRACTED FROM PORPHYRA ON GROWTH PERFORMANCE AND RESISTANCE AGAINST *Edwardsiella tarda* IN JUVENILE OLIVE FLOUNDER *Paralichthys olivaceus*

9:45 **Young-kwang Lee**, Jun-ho Lee, Gunhyun Park, Hyeonho Yun, Kumar Katya, Shahkar Erfan, Seung-han Lee, Sungchul C. Bai
PROTECTIVE EFFECTS OF DIETARY VITAMIN E LEVELS ON MERCURY TOXICITY IN JUVENILE OLIVE FLOUNDER *Paralichthys olivaceus*

10:00 BREAK

11:00 **Weiqun Lu**
THE CAUDAL NEUROSECRETORY SYSTEM (CNSS): FUNCTION IN SALINITY ADAPTATION OF THE EURYHALINE FLOUNDER *Platichthys flesus*

PROTECTIVE EFFECTS OF DIETARY ASCORBIC ACID LEVELS ON MERCURY TOXICIFY IN JUVENILE OLIVE FLOUNDER *Paralichthys olivaceus*

FUNDING FOLLOWS EXTENSION – GETTING EXTRA MILEAGE OUT OF YOUR RESEARCH
Sunday, February 24     8:30 - 12:30     Room 109
Chairs: Anoushka Concepcion, David Landkamer

8:30 **Gary L. Jensen**
FEDERAL FUNDING OPPORTUNITIES INTEGRATING RESEARCH AND EXTENSION FUNCTIONS

8:45 **Gene W. Kim**
SEA GRANT’S ROLE IN INTEGRATING EXTENSION AND RESEARCH: A NATIONAL OFFICE PERSPECTIVE
9:00  Joseph Morris, D. Allen Pattillo, Chris Weeks
THE ROLE OF THE NORTH CENTRAL REGIONAL AQUACULTURE CENTER IN ADDRESSING CHALLENGES FACING REGIONAL AQUACULTURE DEVELOPMENT USING EXTENSION AND RESEARCH PARTNERSHIPS

9:15  Don Webster
USE OF THE LOGIC MODEL IN DEVELOPING EXTENSION PROGRAMS WITH DOCUMENTED OUTCOMES

9:30  R. LeRoy Creswell
EVALUATION TOOLS TO OPTIMIZE IMPACTS OF OUTREACH ACTIVITIES

9:45  LaDon Swann
THE ROLE OF EXTENSION IN TRANSLATIONAL AQUACULTURE RESEARCH: TWO DECADES OF REFINEMENTS

10:00 BREAK

11:00  Laura Tiu, Hanping Wang
LONG-TERM RELATIONSHIPS IN AQUACULTURE

11:15  Sarah Redmond, Dana Morse, Charles Yarish, Jang Kim, Paul Dobbins, Tollef Olson
THE COOPERATIVE CULTURE OF SEAWEED IN NEW ENGLAND – HOW RESEARCH, INDUSTRY, AND EXTENSION ARE CULTIVATING A NEW FIELD IN AQUACULTURE

11:30  April Bagwill, Michael Rust
ENHANCING YOUR OUTREACH PORTFOLIO – WHAT ARE YOUR OPTIONS FOR WORKING WITH NOAA FEDERAL LABS?

11:45  Sebastian Belle, Michael Pietrak, Dana Morse
KNOWLEDGE TRANSFER AND ITS RELATIONSHIP TO ECONOMIC DEVELOPMENT; MAKING RESEARCH COUNT FROM THE PRIVATE SECTOR’S PERSPECTIVE

12:00  Dennis McIntosh
SPLIT ACADEMIC APPOINTMENTS: THE GOOD, THE BAD, AND THE UGLY

NON-TRADITIONAL AQUACULTURE – CONTINUED
Sunday, February 24     8:30 - 12:30     Room 209
Chair: Bill Wurts, Forrest Wynne, Shawn Coyle

8:30  Vaun Cummins, Alejandro Velasquez, Kenneth R. Thompson, Steven D. Rawles, Glen Courtright, Carl D. Webster
REPLACEMENT OF FISHMEAL WITH BLACK SOLDIER FLY MEAL IN PRACTICAL DIETS FOR PACIFIC WHITE SHRIMP Litopenaeus vannamei

8:45  Kenneth R. Thompson, Carl D. Webster
PRODUCTION CHALLENGES OF THE AUSTRALIAN RED CLAW CRAYFISH Cherax quadricarinatus IN KENTUCKY

9:00  Christopher Muzinic, Laura Muzinic, S. Randal Voss
AXOLOTL Ambystoma mexicanum SALAMANDER CULTURE

9:15  Mark G. Shirley, Michael Masser
ALLIGATOR PRODUCTION IN THE UNITED STATES
9:30 Christopher C. Green, Allyse M. Ferrara, David Buckmeier, Richard Campbell, Jan Dean, Carlos Echevarria, Quenton C. Fontenot, Roberto Mendoza, Ryan Peaslee, Brac Salyers  
ALLIGATOR GAR: AN OVERVIEW

10:00 BREAK

11:00 Steve Lochmann, Brandon Baker, Kyle Rachels, Brett Timmons  
BAR GRADING OF ALLIGATOR GAR FINGERLINGS IN RACEWAYS

11:15 Brian L. Nerrie  
BAIT PRODUCTION: RAINBOW TROUT CAGE CULTURE

11:30 Forrest Wynne  
MAINTAINING SELF-SUSTAINING BLUEGILL Lepomis macrochirus AND LARGEMOUTH BASS Micropterus salmoides POPULATIONS AS A METHOD OF LOW INPUT AQUACULTURE

11:45 Chun X. Zhang, Kang K. Huang, Ling Wang, Peng Li, Lu Zhang  
APPARENT DIGESTIBILITY COEFFICIENTS OF NINE FEED INGREDIENTS FOR BULLFROG Rana catesbeiana

12:00 Chunxiao Zhang, Peng Li, Jianmin Zhao  
APPARENT DIGESTIBILITY COEFFICIENTS OF SELECTED FEED INGREDIENTS FOR BULLFROG Rana catesbeiana

AQUACULTURE 101
Sunday, February 24  8:30 - 12:30  Room 110  
Moderator: Kathleen Hartman

8:30 Tom Waltzek  
IMPACT OF EMERGING FISH VIRUSES ON AQUACULTURE

9:00 Marc Turano  
KICKING THE TIRES – AQUACULTURE 101

9:30 Forrest Wynne  
AQUACULTURE 101: GETTING STARTED

10:00 BREAK

11:00 Tyler Faucette  
THE SLOW LANE TO SUCCESS – ONE FARMER’S PERSPECTIVE

11:30 Michael Masser  
PICKING THE WINNERS AND LOSERS IN AQUACULTURE – OBSERVATIONS OF 30 YEARS

12:00 Kathleen Hartman  
BIOSECURITY – YOU’RE ALREADY DOING IT… NOW WRITE IT DOWN!
UNITED STATES TROUT FARMERS ASSOCIATION
INDUSTRY FORUM
Sunday, February 24 8:30 - 12:30 Room 202
Moderator: Sean Nepper

8:30  Sean Nepper
INDUSTRY UPDATE

8:45  Randy McMillan
NAA UPDATE

9:00  Christa Speekmann
APHIS ROLE IN THE US TROUT INDUSTRY

9:15  Jim Parsons
FAMILY BASED SELECTION

9:30  Ken Semmens
REYMAN MEMORIAL FARM FEEDING TRIALS

10:00 BREAK

11:00  Sean Nepper
USTFA GENERAL MEMBERSHIP MEETING AND DISCUSSION
Membership participation and discussion will address such questions as is
the US trout industry growing or just maintaining, what is needed to position
the industry for future development, is the industry supportive of a
promotional check-off program, and what can the USTFA as an association
do to ensure a sustainable future for the US trout industry.

AQUACULTURE ENGINEERING
Sunday, February 24 8:30 - 2:00 Room 206
Chair: Brian Vinci
Sponsor: Aquacultural Engineering Society

8:30  Frederic Gaumet, Marius Hægh, Yngve Ulgenes, Andreas Brunstad
DESIGNING A SUSTAINABLE AND COST EFFECTIVE RAS SYSTEM FOR
PRODUCING 1 MILLION ATLANTIC SALMON POST-SMOLT OF 1 KG PER YEAR:
The KALDNES® RAS SOLUTION

8:45  John Davidson, Christopher Good, Steven Summerfelt
ATLANTIC SALMON Salmo salar CULTURED TO HARVEST SIZE IN HIGH VERSUS
LOW WATER EXCHANGE LAND-BASED RECIRCULATING AQUACULTURE
SYSTEMS

9:00  KC Hosler
CLOSED-CONTAINMENT PILOT PROJECT FOR ATLANTIC SALMON WILL
DETERMINE ECONOMIC FEASIBILITY FOR A FULL-SCALE COMMERCIAL FACILITY

DESIGN AND SAFETY CRITERIA FOR COMMERCIAL AIRLIFTED POLYGEYSER
RAS FACILITY
9:30  Daniel Alt, Ronald Malone
MITIGATION OF SHOCK LOADING IN ORNAMENTAL FISH HATCHERIES

9:45  Steven Hall, Roger Husser, Charles Malveaux, Snehaja Yadlapati
DESIGN AND DEVELOPMENT OF AN ENGINEERED ALLIGATOR CULTURE FACILITY

10:00  BREAK

11:00  Brandon Klim, Kim Jones, Lee Clapp, Tzachi Samocha
OPTIMIZATION MODEL FOR THE MANAGEMENT OF A HORIZONTAL SUB-SURFACE FLOW CONSTRUCTED WETLAND USING THE HALOPHYTE Salicornia bigelovii IN THE TREATMENT OF SHRIMP MARICULTURE EFFLUENT

11:15  Clayton Kern, Raj Boopathy, Marilyn Kilgen, Quentin Fontenot
SEQUENCING BATCH REACTOR PROCESSING IN THE REDUCTION OF NUTRIENT RICH RECIRCULATING RACEWAY WASTEWATER

11:30  Tyler Gibson, Wade O. Watanabe, Thomas M. Losordo, Michael A. Mallin
EVALUATION OF CHEMICAL POLYMERS APPLIED AS COAGULATION AIDS FOR REMOVAL OF SUSPENDED SOLIDS FROM INTENSIVE MARINE RECIRCULATING AQUACULTURE SYSTEM EFFLUENT DISCHARGE

11:45  Corrin Flora, Robert Kröger
LOW-GRADE WEIRS: AN INNOVATIVE AQUACULTURE EFFLUENT MITIGATION STRATEGY

12:00  Sima Hannani, Fatemehsadat Fahandezhsadi, Marlon Greensword
PILOT STUDY PREDICTIONS OF THE RELATIONSHIP BETWEEN AIRFLOW VOLUME AND WATER FLOW IN AIRLIFT

12:30  LUNCH

1:30  Dean Tsoupeis
TYPE II HYBRID PHOTOBIOREACTOR WITH DISSOLVED CO2 MEMBRANE

1:45  Christel Solberg, Chris Andre Johnsen
NEAR INFRARED SPECTROSCOPY (NIR) AN ULTIMATE METHOD FOR RAPID AND ACCURATE QUALITY ASSESSMENTS

FINFISH NUTRITION – CONTINUED
Sunday, February 24  8:30 - 3:00  Room 104
Chair: Gibson Gaylord
Sponsor: NOVUS

8:30  Mehdi Asemani, Roshada Hashim
OPTIMUM ENERGY LEVEL FOR IRIDESCENT SHARK Pangasianodon hypophthalmus

8:45  Mayra L. González-Félix, Martín Perez-Velazquez, Carlos A. Maldonado-Othón, María Teresa Viana, Juan Pablo Lazo
EFFECT OF DIETARY PROTEIN AND LIPID LEVEL ON BIOLOGICAL PERFORMANCE AND BODY COMPOSITION OF THE GULF CORVINA Cynoscion othonopterus
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<th>Time</th>
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| 9:00  | Madison Powell, Alejandro Villasante, Andreas Brezas, Biswamitra Patro, Ronald Hardy  
      | SIZE EFFECTS RAINBOW TROUT *Oncorhynchus mykiss* UTILIZATION OF DIETARY CARBOHYDRATES AND LIPID DEPOSITION OVER TIME |
| 9:15  | Rebecca L. Cook, D. Allen Davis, Yan-Gen Zhou, Melanie A. Rhodes  
      | GROWTH PERFORMANCE OF FLORIDA POMPANO *Trachinotus carolinus* FED PRACTICAL DIETS WITH INCREASING LEVELS OF COTTON SEED MEAL |
| 9:30  | Sirirat Chatvijitkul, C. Lim, D. Allen Davis  
      | EVALUATION OF THE ACCEPTABILITY OF LIPID EXTRACTEDS DISTILLERS DRY GRAINS WITH SOLUBLES (DDGS) AS A PARTIAL REPLACEMENT FOR SOYBEAN MEAL IN NILE TILAPIA |
| 9:45  | Keshun Liu, Rick Barrows, Mike Woolman, Jason Frost  
      | METHODS TO CONCENTRATE PROTEINS FROM GRAINS FOR USE IN AGUAFEEDS |
| 10:00 | BREAK                                                                 |
| 11:00 | Janice Ragaza, Shunsuke Koshio, Manabu Ishikawa, Saichiro Yokoyama  
      | COMPARATIVE EFFECTS OF OPTIMAL DIETARY SUPPLEMENTATION LEVELS OF 3% RED *Eucheuma denticulatum* AND 6% BROWN *Sargassum fulvellum* ALGAE IN DIET OF JUVENILE JAPANESE FLOUNDER *Paralichthys olivaceus* |
| 11:15 | Armando Garcia-Ortega, Laura Martinez-Steele, Paul J. Sarnoski, Dennis Gonsalves, Marisa M. Wall  
      | USE OF BIOFUEL BY-PRODUCTS FROM GREEN ALGAE AND DIATOM AS PROTEIN SOURCES IN DIETS FOR NILE TILAPIA *Oreochromis niloticus* |
| 11:30 | Biswamitra Patro, L. Elizabeth Cruz-Suarez, Denis Ricque, Madison S. Powell, Ronald W. Hardy  
      | EVALUATION OF *Ulva clathrata* MEAL SUPPLEMENTATION IN FISH MEAL AND PLANT PROTEIN-BASED DIETS FOR RAINBOW TROUT *Oncorhynchus mykiss* |
| 11:45 | John Bowzer, Jesse Trushenski, Steven Rawles, Frederic Barrows, T. Gibson Gaylord  
      | CARP-BASED AQUAFEEDS AND MARKET-DRIVEN APPROACHES TO CONTROLLING INVASIVE ASIAN CARP IN THE ILLINOIS RIVER |
| 12:00 | Biswamitra Patro, Ronald W. Hardy, Peter J. Bechtel, Scott Smiley  
      | EVALUATION OF ALASKA POLLOCK FISHERY BYPRODUCTS IN THE DIETS OF RAINBOW TROUT FRY |
| 12:15 | Donna Snellgrove, Biswamitra Patro, Ronald W Hardy  
      | EFFECTS OF TOTAL FISHMEAL REPLACEMENT WITH SOY PROTEIN-BOUND AMINO ACIDS AND THE POLYCHAETE WORM *Nereis virens* ON PERFORMANCE OF POST-JUVENILE RAINBOW TROUT *Oncorhynchus mykiss* |
| 12:30 | LUNCH                                                                 |
| 1:30  | Juan P. Lazo, Victor Torres, Monica Hernandez, Eduardo Durazo, Maria Teresa Viana  
      | THE EFFECTS OF SUBSTITUTING DIETARY FISH OIL WITH LINSEED OIL ON GROWTH, SURVIVAL AND THERMAL STRESS RESISTANCE OF JUVENILES GULF CORVINA *Cynoscion othonopterus* |
1:45 Curtis Crouse, Rebecca Kelley, Jesse Trushenski, Michael Lydy
EFFECTS OF ALTERNATIVE LIPIDS AND FINISHING FEEDS ON FILLET FATTY ACID
PROFILE AND PERSISTENT ORGANIC POLLUTANT ACCUMULATION IN HYBRID
STRIPPED BASS

2:00 Owen Skipper-Horton, Dominique P. Bureau
BENCHMARKING GROWTH PERFORMANCE AND FEED EFFICIENCY OF
COMMERCIAL RAINBOW TROUT FARMS IN ONTARIO, CANADA

2:15 Thiago Raggi, Fanny Yasumaru, Vivian Kadry, Albert G. J. Tacon, Daniel Lemos
ASSESSING COMMERCIAL AQUAFEEDS FOR NILE TILAPIA Oreochromis niloticus
AND PACIFIC WHITE SHRIMP Litopenaeus vannamei FARMED IN BRAZIL:
PROXIMATE COMPOSITION, PHYSICAL WATER STABILITY AND IN VITRO
PROTEIN DIGESTION

2:30 Nathan P. Brennan, Clark L. Schoonover, Kevan L. Main
INFLUENCE OF FEEDING STRATEGIES ON GROWTH PERFORMANCE OF FLORIDA
POMPANO Trachinotus carolinus REARED IN INLAND RECIRCULATING SYSTEMS

2:45 Kabir Mohammed Adamu, Bala Sambo Audu, Mohammed Chado Isah
PHYSIOLOGICAL PROFILES OF HYBRID CATFISH FED PRACTICAL DIETS IN
RE Circulating AQUACULTURE SYSTEM

3:00 Muhammad Ashraf, Nida Ismat
EFFECT OF DIFFERENT FEED INGREDIENTS ON GROWTH AND LEVEL OF
INTESTINAL ENZYME SECRETIONS IN JUVENILE Labeo rohita, Catla catla,
Cirrhinus mrigala AND Hypophthalmichthys molitrix

GENETICALLY ENGINEERED FISH AND SHELLFISH
Sunday, February 24 8:30 - 5:30 Room 207
Chairs: John Buchanan, Yoni Zohar

Gene Delivery, Phenotypes, Applications
8:30 Zuoyan Zhu, Yaping Wang, Wei Hu, Yonghua Sun
CURRENT RESEARCH STATUS IN DEVELOPING GROWTH HORMONE-
TRANSGENIC COMMON CARP FOR AQUACULTURE

9:00 Thomas T. Chen, Pin-Wen P. Chiou, Maria J. Chen, chun-Mean Lin
PRODUCTION OF TRANSGENIC RAINBOW TROUT RESISTANT TO INFECTION BY
BACTERIAL AND VIRAL PATHOGENS

9:15 Shaojun (Jim) Du, Jianshe Zhang, Ezra Yagil
EMERGING GENE-TRANSFER AND KNOCKOUT TECHNOLOGIES IN ZEBRAFISH
MODEL

9:30 Cunming Duan
IGF SIGNALING AND GROWTH REGULATION: LESSONS FROM A SMALL FISH

9:45 Jeremy E. Ellis
GENETICALLY ENGINEERED SHRIMP: LESSONS FROM OTHER ARTHROPODS

10:00 BREAK
11:00 **Debbie Plouffe, D. Runighan, J. T. Buchanan**
REPRODUCTIVE CONFINEMENT FOR THE SAFE CULTIVATION OF GENETICALLY IMPROVED LINES OF ATLANTIC SALMON

11:15 **Matthew Rise, Charles Feng, Qingheng Xu, Tiago Hori, Debbie Plouffe, Mohamed Salem, John Buchanan**
FUNCTIONAL GENOMICS OF GROWTH HORMONE TRANSGENIC ATLANTIC SALMON: MICROARRAY SIGNATURES OF FAST- VERSUS SLOW-GROWING FAMILIES AND EFFECTS OF TRIPLOIDY

11:30 **Mohamed Salem, Charles Y. Feng, Qingheng Xu, Tiago Hori, Debbie A. Plouffe, Matthew L. Rise, John T. Buchanan**
FUNCTIONAL GENOMICS OF GROWTH HORMONE TRANSGENIC ATLANTIC SALMON: RNA-SEQ SIGNATURES OF FAST- VERSUS SLOW-GROWING FAMILIES AND EFFECTS OF TRIPLOIDY

11:45 **Rachid Ganga, Cheryl Wall, Sean Tibbetts, Matthew Bryenton, Alex Peters, Dawn Runighan, Debbie Plouffe, John Buchanan, Santosh Lall**
THE EFFECT OF PARTIAL INCLUSION OF PLANT PROTEIN IN DIETS FOR GENETICALLY ENGINEERED DIPLOID AND TRIPLOID ATLANTIC SALMON *Salmo salar* ON GROWTH, FEED UTILIZATION, BODY COMPOSITION AND AMMONIA EXCRETION

12:00 **Tiago Hori, Qingheng Xu, Debbie Plouffe, John Buchanan, Matthew Rise**
FUNCTIONAL GENOMIC ANALYSIS OF IMMUNE-RELEVANT TRANSCRIPT EXPRESSION RESPONSE TO TRIPLOIDIZATION IN GROWTH HORMONE (GH) TRANSGENIC ATLANTIC SALMON

12:30 LUNCH

*Regulatory, Environmental Considerations, Containment Technologies*

1:30 **Ron Stotish**
AQUADVANTAGE® SALMON: A CASE STUDY IN REGULATION OF A TRANSGENIC FOOD ANIMAL BY FDA

2:00 **John Buchanan, Eric Hallerman**
TRANSGENIC ATLANTIC SALMON: ENVIRONMENTAL RISKS AND RISK MANAGEMENT

2:15 **Steven T. Summerfelt**
FISH EXCLUSION TECHNOLOGIES TO PREVENT ESCAPEES FROM LAND-BASED CLOSED-CONTAINMENT SYSTEMS

2:30 **Tillmann J. Benfey**
TRIPLOIDY AS A MEANS OF CONTAINING GENETICALLY IMPROVED FISH

3:00 BREAK

3:30 **Yonathan Zohar**
ENDOCRINE-BASED APPROACH TO INDUCED STERILITY IN FARmed FISH

3:45 **Xavier Lauth, Tuong Tran, John Buchanan**
MATERNALLY-INDUCED STERILITY IN FISH

4:00 **Rex Dunham, Baofeng Su, Atra Chaimongkol, Xavier Lauth, Renee Beam, Dayan Perera, Ron Thresher, Peter Grewe, Eric Peatman, Michael Irwin, Carl Pinkert, Mei Shang, Hanbo Li, Chia-chen Weng, Zhenkui Qin, Qi Cheng, Yun Li, Michael Fobes**
REVERSIBLE TRANSGENIC STERILIZATION IN CHANNEL CATFISH
SHELLFISH DISEASE AND CLIMATE CHANGE

Sunday, February 24  8:30 - 5:30  Room 208
Chairs: Marta Gomez, Roxanna Smolowitz, Norman Meres

8:30  Marta Gomez-Chiarri, Roxanna Smolowitz, Norman Meres
SHELLFISH DISEASES: HOW DO WE MEASURE AND MANAGE THE IMPACTS OF CLIMATE CHANGE?

8:45  Norman Meres, Cyril Ajuzie, Masoumeh Sikaroodi, Meghana Vemulapalli, Jeffrey Shields, Patrick Gillevet
DYSBIOSIS IN EPIZOOTIC SHELL DISEASE IN THE AMERICAN LOBSTER Homarus americanus

9:00  Suchandra Hazra, Robert Quinn, Roxanna Smolowitz, Andrei Chistoserdov
BACTERIA ASSOCIATED WITH THE NORMAL AND DISEASED INTEGUMENT OF FOUR LARGE ARTHROPODS FROM THE NEW ENGLAND COAST

9:15  Michael Tlusty, Anita Metzler
DECONSTRUCTING THE ROLE OF TEMPERATURE IN DRIVING SHELL DISEASE IN AMERICAN LOBSTERS Homarus americanus

9:30  Timothy Bowden, Joshua Hall
THE USE OF INTERMEDIATE STAGES BY THE LARVAE OF THE AMERICAN LOBSTER Homarus americanus WHEN EXPOSED TO NEAR FUTURE WATER pH

9:45  Joseph G. Kunkel, Michael Tlusty, Michael J. Jercinovic
FLUORIDE ROLE IN CARBONATE APATITE STRUCTURES IN EXOSKELETONS OF CLAWED LOBSTERS Homarus americanus AND Homarus gammarus

10:00  BREAK

11:00  Daphne Munroe, David Bushek, Eric Powell
OYSTER MORTALITY AND DISEASE IN DELAWARE BAY: IMPACT AND RECOVERY FOLLOWING HURRICANE IRENE AND TROPICAL STORM LEE

11:15  Naoki Itoh, Hyun-Sil Kang, Timothy Green, Toshihiro Yamamoto, Seinen Chow, Masahiko Awaji, Kwang-Sik Choi
HISTOLOGICAL OBSERVATIONS AND MOLECULAR PHYLOENY OF Marteilia sp. INFECTING IN THE DIGESTIVE ORGAN OF THE MANILA CLAM Ruditapes philippinarum

11:30  Kaitlin A. Gallagher, William D. Krebs, Susan E. Laramore
HISTOLOGICAL EXAMINATION OF PCR POSITIVE Bonamia spp., BIVALVES FROM FLORIDA'S INDIAN RIVER AND LAKE WORTH LAGOONS

11:45  Jessica Piesz, Ryan Corbett, Marta Gomez-Chiarri
DEVELOPMENT OF A MULTIPLEX qPCR FOR THE QUANTIFICATION OF THE CAUSATIVE AGENTS OF DERMO, MSX, AND SSO DISEASES IN OYSTERS

12:00  Sammy M. Ray, Brittany Blomberg, Jennifer Pollack, Rick Kalky
THE STATUS OF DERMO DISEASE IN OYSTERS OF ARANSAS-COPANO BAYS, TEXAS

12:30  LUNCH

1:30  Barbara J. Sheppard
REVIEW OF UNIQUE FEATURES OF PHOTOSYNTHETIC GIANT CLAMS
1:45  Joyce Yuk-Ting Lau, Lauren Sussman, Selma Katalai, Emmanuelle Pales Espinosa, Bassem Allam
CHARACTERIZATION OF HEMOCYTES FROM DIFFERENT BODY FLUIDS OF THE EASTERN OYSTER Crassostrea virginica

2:00  Bassem Allam, Wade Carden, J. Evan Ward, Gina Ralph, Sarah Winnicki, Najeeb Parvez, Emmanuelle Pales Espinosa
EVIDENCE THAT Perkinsus marinus IS ACQUIRED BY OYSTERS DURING REJECTION OF WATERBORNE PARTICLES AS PSEUDOFECES

2:15  Bassem Allam, Ewelina Rubin, Arnaud Tanguy, Emmanuelle Pales Espinosa
DIFFERENTIAL GENE EXPRESSION IN QUAHOG PARASITE UNKNOWN (QPX) IN RESPONSE TO DIFFERENT TEMPERATURES

2:30  Mahanama De Zoysa, Udeni Menike, Jehee Lee
TRANSCRIPTOME SEQUENCING AND APPLICATION OF OLIGO MICROARRAY FOR SCREENING OF IMMUNE-STRESS RESPONSE GENES IN MANILA CLAM

2:45  Nicole Messerman, Timothy Bowden
THE SEARCH FOR THE INTERMEDIATE HOST OF THE OYSTER PARASITE Haplosporidium nelsoni

3:00  BREAK

3:30  Roxanna Smolowitz, Kathryn Markey, Whitney Jaillet, Marta Gomez-Chiarri
POSSIBLE RANGE EXTENSION OF SEASIDE ORGANISM TO THE NORTHEAST U.S. AND EFFECTS ON MORBIDITY, MORTALITY AND MOVEMENT OF EASTERN OYSTERS

3:45  David Bushek, Ryan Carnegie
REGULATION OF MOLLUSCAN TRANSFERS: DEFINING NEW ALTERNATIVE MODELS FOR IMPROVED BIOSECURITY REGULATION

4:00  Marta Gomez-Chiarri, Murni Karim, Wenjing Zhao, Chrissy Dao, David Rowley, David Nelson
ELUCIDATING THE MECHANISMS OF PROBIOTIC ACTIVITY BY Phaeobacter sp. S4 IN LARVAL OYSTERS Crassostrea virginica

4:15  Diane Kapareiko, Jennifer H. Alix, Dorothy Jeffress, Gary H. Wikfors
SPECIES-SPECIFIC AND SEASONAL EFFECTS OF TWO PROBIOTIC BACTERIA UPON HEMOCYTES OF THE EASTERN OYSTER Crassostrea virginica AND THE NORTHERN BAY SCALLOP Argopecten irradians

4:30  Khairul Azam, Prashant Narayan, Johnson Seeto
SAFE USAGE OF ANTIBIOTIC (OXYTETRACYCLINE) IN LARVAL REARING OF MUD CRAB Scylla serrata (FORSSKAL, 1775) IN FIJI

4:45  Paul Rawson, Scott Lindell, Ximing Guo, Inke Sunila
DISEASE-RESISTANCE AND IMPROVED PERFORMANCE FOR CROSS-BRED EASTERN OYSTERS Crassostrea virginica. I. EVALUATION OF LINE-SPECIFIC GROWTH AND YIELD

5:00  Inke Sunila, Ximing Guo, Paul Rawson, Scott Lindell
DISEASE-RESISTANCE AND IMPROVED PERFORMANCE FOR CROSS-BRED EASTERN OYSTERS Crassostrea virginica. II. EVALUATION OF LINE-SPECIFIC DISEASE PREVALENCE
Stress and Environmental Challenges – continued

8:30  Helgi Thorarensen, Albert Imsland, Snorri Gunnarsson, Arnþór Gustavsson
THE EFFECT OF OXYGEN SATURATION ON THE GROWTH OF AQUACULTURE FISH

8:45  Tillmann J. Benfey, Lauren Ellis, Inge Findorf
EFFECTS OF ELEVATED TEMPERATURE ON THE PHYSIOLOGY OF TRIPLOID CHARR

9:00  Russell Borski, Brittany Holler, Poem Turner, Jamie Mankiewicz, Adriane Gill, Harry Daniels, John Godwin
EFFECT OF CORTISOL AND TANK COLOR ON SEX DETERMINATION AND GROWTH IN SOUTHERN FLOUNDER Paralichthys lethostigma

9:15  Janaina Pedron, Denise S. Miron, Ricardo V. Rodrigues, Marcelo H. Okamoto, Maria Angélica Garrido-Pereira, Marcelo B. Tesser, Luís André Sampaio
STRESS RESPONSE IN TRANSPORT OF JUVENILE COBIA Rachycentron canadum: BENZOCAINE AND LOADING DENSITIES EFFECTS

9:30  Peter Allen, Louis D’Abramo, Joseph Cech
SALINITY REGULATION FOR FISH AND CRUSTACEANS: WHAT ARE THE ESSENTIAL IONS?

10:00 BREAK

Growth and Nutrition – Moderator: Brian Small

11:00  Cunming Duan
ROLE OF IGF SIGNALING IN CATCH-UP GROWTH IN RESPONSE TO NUTRIENT AND OXYGEN AVAILABILITY

11:30  Jonathan Douros, Eugene Won, David Baltzegar, Russell Borski
LEPTIN STIMULATES HEPATIC GROWTH HORMONE RECEPTOR AND INSULIN-LIKE GROWTH FACTOR EXPRESSION: POSSIBLE FUNCTION IN ENHANCING GH-MEDIATED ANABOLIC PROCESSES IN FISH

11:45  Chad Walock, Heather Bergan, Jeff Kittilson, Mark Sheridan
DIFFERENTIAL EFFECTS OF GROWTH HORMONE FAMILY PEPTIDES ON THE EXPRESSION OF INSULIN-LIKE GROWTH FACTOR 1 AND 2 mRNAs AND MODULATION BY NUTRITIONAL STATE

12:00  Carlin Fenn, Brian C. Small
INSULIN-LIKE GROWTH FACTOR REGULATION IN Scaphirhynchus STURGEON

12:15  Peggy Biga, Ben Meyer, Jacob Michael Froehlich, Nicholas Galt
PHYSIOLOGICAL INSIGHTS TOWARDS IMPROVING GROWTH PERFORMANCE: FROM A MODEL ORGANISM PERSPECTIVE

12:30 LUNCH
1:30 Jacob Michael Froehlich, Zachary G. Fowler, Ethan A. Remily, Sinibaldo R. Romero Arocha, Nicholas J. Galt, Peggy R. Biga
APPLYING ZEBRA DANIO RESEARCH TO TROUT AND SALMON: ARE DANIOS SIMILAR TO SALMONIDS?

1:45 Beth M. Cleveland, Gregory M. Weber
EFFECTS OF PHYTOESTROGENS ON INDICES OF PROTEIN TURNOVER IN RAINBOW TROUT *Oncorhynchus mykiss* PRIMARY MYOCYTES

2:00 Mohamed Salem, Meghan L. Manor, Aunchalee Aussanasuwannakul, P. Brett Kenney, Gregory M Weber, Susan D. Slider, Jianbo Yao
EFFECT OF SEXUAL MATURATION ON MUSCLE GENE EXPRESSION OF RAINBOW TROUT ON A HIGH NUTRITIONAL PLANE: RNA-SEQ APPROACH

2:15 Meghan Manor, Gregory Weber, Beth Cleveland, P. Brett Kenney
EFFECTS OF FEEDING LEVEL AND SEXUAL MATURATION ON FATTY ACID COMPOSITION OF ENERGY STORES IN DIPLOID AND TRIPLOID RAINBOW TROUT *Oncorhynchus mykiss*

2:30 Gregory Weber, Mark Hostuttler, Beth Cleveland, Timothy Leeds
GROWTH PERFORMANCE COMPARISON OF INTERCROSS-TRIPLOID, INDUCED-TRIPLOID, AND DIPLOID FEMALE RAINBOW TROUT *Oncorhynchus mykiss*

2:45 Jesse T. Trushenski
REQUIREMENTS, SO-CALLED REQUIREMENTS, AND EXCEPTIONS TO THE RULES: CHANGING THE WAY WE THINK ABOUT FATTY ACIDS AND LIPID NUTRITION OF FISHES

3:00 BREAK

3:30 Camilo Pohlenz, Alejandro Buentello, Anne Marie Bakke, Delbert M. Gatlin III
FREE DIETARY GLUTAMINE POSITIVELY AFFECTS THE MIGRATION RATE OF CHANNEL CATFISH *Ictalurus punctatus* ENTEROCYTES

3:45 Tomer Katan, Kurt Gamperl, Christopher Parrish, Matthew Rise, Gordon Nash, Danny Boyce
THE EFFECT OF DIETARY SUPPLEMENTATION WITH ZOOPLANKTON OR FISH PROTEIN HYDROLYSATE ON ATLANTIC COD *Gadus morhua* PRODUCTION TRAITS AND PHYSIOLOGY

4:00 Ken Overturf, Andrea Dumas
ANALYSIS OF ENERGY UTILIZATION AND GROWTH IN RAINBOW TROUT
CATFISH AND CATFISH HYBRIDS
Sunday, February 24  8:30 - 5:30  Room 103
Chairs: Jimmy Avery, Nagaraj Chatakondi

8:30  Jimmy L. Avery, Terry Hanson, James Steeby
     STATUS OF THE U.S. FARM-RAISED CATFISH INDUSTRY

8:45  Li Li, Claude E. Boyd
     IDENTIFICATION OF ICTALURID CATFISH FILLETS TO REARING LOCATION USING
     ELEMENTAL PROFILING

9:00  Luke Roy, Gregory Whitis, Terrill Hanson, Lisa Bott, Jesse Chappell
     THE USE OF A YIELD VERIFICATION PROGRAM TO EVALUATE PRODUCTION
     METHODS ON A HYBRID CATFISH FARM THAT USES INTENSIVE AERATION
     (10 HP/acre) IN WEST ALABAMA

9:15  Terrill R. Hanson, Luke A. Roy, Gregory N. Whitis, Lisa Bott, Jesse A. Chappell
     ALABAMA YIELD VERIFICATION PROGRAM – HYBRID AND CHANNEL CATFISH
     COST OF PRODUCTION

9:30  Corey Courtwright, Terry Hanson
     LINKING POND PRODUCTION PRACTICES TO CATFISH QUALITY AT THE
     PROCESSING PLANT

9:45  Patrick Rees, Carole Engle
     FOODFISH PRODUCTION STRATEGIES USING 13-CM AND 18-CM HYBRID
     CATFISH $Ictalurus punctatus \times Ictalurus furcatus$

10:00 BREAK

11:00 Rex Dunham, Dayan Perera, Mostafa Mandour, Michael Fobes, Baofeng Su
     IMPACT OF GENETICS ON HYBRID CATFISH PRODUCTION

11:15 Brian Bosworth, Geoff Waldbieser
     GENERAL AND SPECIFIC COMBINING ABILITY OF MALE BLUE CATFISH
     $Ictalurus furcatus$ AND FEMALE CHANNEL CATFISH $I. punctatus$ FOR GROWTH AND
     CARCASS YIELD OF THEIR F1 HYBRID PROGENY

11:30 E Hu, Terrence Tiersch
     AN OVERVIEW FOR INTEGRATION OF GERMPLASM BANKING INTO CATFISH
     AQUACULTURE

11:45 Noel D. Novelo, Terrence R. Tiersch
     USER’S GUIDE TO ULTRASOUND IMAGING IN AQUACULTURE REPRODUCTION OF
     CHANNEL CATFISH FOR THE LABORATORY AND FARM

12:00 Nagaraj G. Chatakondi
     EFFICACY OF SALMON GnRHa TO STIMULATE OVULATION IN CHANNEL CATFISH
     $Ictalurus punctatus$ IN HYBRID CATFISH FRY PRODUCTION

12:15 Anita M. Kelly, Nagaraj Chatakondi
     THE EFFECT OF TRIPLOID INDUCTION ON SURVIVAL AND GROWTH OF HYBRID
     CATFISH

12:30 LUNCH
1:30 Ganesh Kumar, Carole Engle
COST OF PRODUCTION AND ADOPTION OF SPLIT-PONDS FOR CATFISH

1:45 Matthew S. Recsetar
VERIFICATION RESULTS FROM 16 SPLIT POND PRODUCTION SYSTEMS IN ARKANSAS

2:00 Yushun Chen, Kathryn Herzog, Carole Engle, David Heikes, Steeve Pomerleau
EARLY MORNING DISSOLVED OXYGEN AND RELATED WATER QUALITY IN TRADITIONAL AND SPLIT CATFISH PONDS

2:15 Travis W. Brown, Eugene L. Torrans
DEVELOPMENT AND EVALUATION OF A NEW AERATOR FOR THE CATFISH INDUSTRY: AN UPDATE

2:30 Yushun Chen, Kathryn Herzog, Kevin Schrader
EFFECTS OF PHYSICAL REMOVAL OF PHYTOPLANKTON ON ALGAL BIOMASS AND WATER QUALITY WITHIN LIMNOCORRALS

3:00 BREAK

3:30 Fabio Soller Dias da Silva, BoChao Hu, D. Allen Davis
GROWTH PERFORMANCE OF CHANNEL CATFISH *Ictalurus punctatus* FED PRACTICAL DIETS WITH INCREASING LEVELS OF LYSINE SUPPLEMENTS

3:45 David Kuhn, Stephen Smith, Dan Taylor, Mary Mainous
ORGANIC MOLLUSCIDE OPTION FOR CATFISH AND FRESHWATER POND FARMERS

4:00 Heather Stewart, Peter Allen
THERMAL STRESS TOLERANCE OF CHANNEL AND HYBRID CATFISH

4:15 Brian Ott, Les Torrans
USE OF THE “SEE-SAW” INCUBATOR TO IMPROVE EFFICIENCY OF CHANNEL CATFISH *Ictalurus punctatus* HATCHERIES

HISTORY OF AQUACULTURE – CONTINUED
Sunday, February 24  8:30 - 5:30  Room 201
Chairs: John Nickum, John Kraeuter, Paul Sandifer

11:00 José Fernández-Polanco, Lucio Grassia
AQUACULTURE IN THE ANCIENT ROMAN ECONOMY

History of Crustacean Aquaculture – Moderator: Paul Sandifer

11:15 Robert Romaine, James W. Avault, Jr.
HISTORY AND PIONEERS IN PROCAMBARID CRAWFISH AQUACULTURE

11:30 David Aiken
HISTORY OF LOBSTER CULTURE

11:45 Paul Sandifer, Louis D’Abramo, Spencer Malecha, James Tidwell
EARLY HISTORY AND PIONEERS OF FRESHWATER PRAWN AQUACULTURE
12:00   Yew-Hu Chien, I Chiu Liao
THE RISE OF SHRIMP CULTURE IN ASIA – WHO, WHEN AND WHAT FROM JAPAN, TAIWAN AND CHINA

12:15   Daniel Fegan
A BRIEF HISTORY OF SHRIMP FARMING IN SE ASIA

12:30   LUNCH

1:30   Harvey O. Persyn
HISTORY AND PIONEERS IN SHRIMP CULTURE IN LATIN AMERICA

1:45   Paul A. Sandifer
EARLY HISTORY AND PIONEERS OF MARINE SHRIMP FARMING R&D IN THE UNITED STATES

History of Fish Aquaculture – Moderator: John Nickum

2:00   Brad Hicks
THE OPPORTUNITY OF A LIFETIME; TRIALS AND TRIBULATIONS OF MODERN AQUACULTURE PIONEERING

2:15   Steven G. Hughes, John G. Nickum
C.M. McCAY: THE FORGOTTEN FATHER OF FORMULATED FISH FEEDS

2:30   Kevin Fitzsimmons
TILAPIA PIONEERS: THE AQUATIC CHICKEN TAKES CENTER STAGE

2:45   Andrew J. Mitchell
STANISLAS F. SNIESZKO: THE MAN, THE SCIENTIST, AND HIS LEGACY

3:00   BREAK

3:30   Frederick Binkowski, Serge Doroshov, Ronald Bruch
WHO’S WHO IN STURGEON CULTURE IN THE 19TH-21ST CENTURY

3:45   Gary Fornshell
HISTORY AND PIONEERS OF TROUT CULTURE IN THE WESTERN UNITED STATES

4:00   James A. Steeby, Jimmy L. Avery
PIONEERS AND KEY DEVELOPMENTS IN THE HISTORY OF THE CHANNEL CATFISH Ictalurus punctatus INDUSTRY

4:15   Bjorn Myrseth
THE FIRST YEARS OF ATLANTIC SALMON FARMING IN NORWAY – THE PIONEERS AND WHAT WE LEARNED

4:45   Vincent A. Mudrak
KEEN W. BUSS, AN AMERICAN PIONEER IN MODERN SALMONID FISH CULTURE IN NORTHEASTERN USA

5:00   Dave Straus, Drew Mitchell, Jerry Ludwig, Ray Carter, Bo Collins
A HISTORY OF THE FISH FARMING EXPERIMENTAL LABORATORY IN STUTTGART, ARKANSAS AND THE TRANSFER TO THE USDA/ARS HARRY K. DUPREE - STUTTGART NATIONAL AQUACULTURE RESEARCH CENTER
CONTAMINANTS AND SHELLFISH
Sunday, February 24     11:30 - 3:00     Room 102
Chairs: Aswani Volety, Allison Mass Fitzgerald

11:45 Eman El-Wazzan, A.S. Abbas, M. Kamal
HEAVY METALS CONTAMINATION OF THE CARPET SHELL CLAM Tapes
decussatus FROM EGYPTIAN CLAM FISHERIES

12:00 Amber Garr, Susan Laramore, Will Krebs
POTENTIAL FOOD WEB IMPACTS FOLLOWING THE DEEP WATER HORIZON OIL
SPILL: TOXICITY EFFECTS ON PHYTOPLANKTON AND ZOOPLANKTON

12:30 LUNCH

1:30 Michael Williams, Mickie Powell, Stephen Watts
OIL SPILL AFTERMATH: THE EFFECTS OF THE DISPERSAN COREXIT 9500A ON
ZOOPLANKTON POPULATIONS WITH IMPLICATIONS FOR COASTAL FISHERIES

1:45 Julien Vignier, Jeffrey Devine, Brooke Denkert, Philippe Soudant, Fu Lin, E. Chu,
Jeffrey M. Morris, Michael W. Carney, Josh Lipton, Dave Cacela, Aswani K. Volety
EFFECTS OF ACUTE EXPOSURE TO DEEPWATER HORIZON OIL SPILL AND
ASSOCIATED DISPERSAN ON EMBRYOS AND VELIGERS OF THE EASTERN
OYSTER Crassostrea virginica

2:00 Susan E. Laramore, Amber Garr, William E. Krebs
ACUTE AND SUBLETHAL IMPACTS OF MC252 OIL AND DISPERSAN ON EARLY
LIFE STAGES OF Crassostrea virginica

2:15 Aswani K. Volety, Lesli Haynes, Julien Vignier, Nicole Martin, Andrew Griffith,
Lindsay Castret, Ludovic Donaghy, Philippe Soudant, Fu-Lin Chu, Jeffrey Morris,
Michael Carney, Joshua Lipton, David Cacela
BIOLOGICAL RESPONSES OF THE EASTERN OYSTER Crassostrea virgicia
EXPOSED TO DEEPWATER HORIZON OIL AND DISPERSANTS VIA DIETARY
PATHWAYS: IMPACTS ON F-2 GENERATION

CONSERVATION / RESTORATION AQUACULTURE FISH
Sunday, February 24     1:30 - 5:30     Room 203
Chair: Alison Hutson

1:30 Fayyaz Rasool, Naureen Aziz Qureshi, Shakeela Parveen
MORPHOMETERIC PARAMETERS ASSISTED STUDY OF THE HATCHERY RAISED
AND NATURAL POPULATIONS OF Cirrhinus mrigala

1:45 Sk. Mustafizur Rahman, Carlos A. Strüssmann, Toru Suzuki, Manabu Watanabe
EFFECT OF ELECTROPORATION ON THE PERMEATION OF THE CRYOPROTECTANT
DIMETHYL SULFOXIDE INTO Sillago japonica EMBRYOS

2:00 Carl Kittel, Chris Thibodeaux, Gary Garrett, Rob Schmid, Dijar Lutz-Carrillo
SPAWNING GUADALUPE BASS Micropterus treculii IN HATCHERY RACEWAYS:
MAXIMIZING PRODUCTION AND GENETIC VARIATION
2:15 Jason Henegar, Kathlina Alford, Mark Cantrell, Carlos Echevarria, Anna George, Bernard Kuhajda
DEVELOPMENT OF THE TENNESSEE RIVER LAKE STURGEON Acipenser fulvescens MANAGEMENT PLAN AND WORKING GROUP

2:30 Patrick Rakes, J. R. Shute, Crystal L. Ruble, Melissa A. Petty
THIRTY YEARS OF CULTURING THREATENED AND ENDANGERED FISH SPECIES IN TENNESSEE

2:45 Patrick L. Rakes, Anna L. George, Bernard R. Kuhajda, James D. Williams, Mark A. Cantrell, J. R. Shute
GUIDELINES FOR PROPAGATION AND TRANSLOCATION FOR FRESHWATER FISH CONSERVATION: SUMMARY PRINCIPLES AND EXAMPLES FROM SOUTHEASTERN FISH SPECIES RESTORATION PROJECTS

3:00 BREAK

3:30 Douglas Tave, Louie A. Toya, Alison M. Hutson
RESULTS FROM THE FIRST THREE YEARS OF GROW-OUT OF THE ENDANGERED RIO GRANDE SILVERY MINNOW Hybognathus amarus IN THE NATURALIZED CONSERVATION UNIT AT THE LOS LUNAS SILVERY MINNOW REFUGIUM, USING DIFFERENT FERTILIZATION REGIMENS AND STOCKING RATES

3:45 Alison Hutson, Louie A. Toya, Douglas Tave
SPAWNING OF THE ENDANGERED RIO GRANDE SILVERY MINNOW Hybognathus amarus IN THE NATURALIZED CONSERVATION UNIT AT THE LOS LUNAS SILVERY MINNOW REFUGIUM, USING NATURAL SPAWNING CUES TO DEFINE SPAWNING HABITAT

PERCIDS
Sunday, February 24  1:30 - 5:30   Room 211
Chairs: Alan Johnson, Laura Tiu

1:30 Konrad Dabrowski, Małgorzata Korzeniowska, Karolina Kwasek, Michal Wojno
EFFECT OF SWIM BLADDER NON-INFLATION ON YELLOW PERCH PERFORMANCE – IS THERE A LATE INFLATION AFTER PNEUMATIC DUCT ATHROPHY?

1:45 Timothy Parker, Konrad Dabrowski, Karolina Kwasek, Michal Wojno
EFFECTS OF OXYGEN SATURATION ON GROWTH AND METABOLIC RATE IN YELLOW PERCH Perca flavescens WITH UN-INFLATED OR INFLATED SWIM-BLADDER

2:00 Konrad Dabrowski, Karolina Kwasek, Michal Wojno, Grayson John
THE ART OF RAISING YELLOW PERCH LARVAE AND JUVENILES IN CAPTIVITY

2:15 J. Alan Johnson
WALLEYE Sander vitreus LARVAL CULTURE IN PONDS AND TANKS

2:30 Gregory J. Fischer
INTENSIVE PRODUCTION OF HYBRID WALLEYE Sander vitreus × S. canadense IN A RECYCLE WATER SYSTEM

2:45 Christopher Hartleb, Bryan Rehwinkel, John Tix, Brandon Gottsaker
EFFECTS OF DIFFERENT COMMERCIAL LIGHTING ON YELLOW PERCH GROWTH
3:00  BREAK

3:30  Kurt A. Rosentrater
PROCESSING AND PERFORMANCE STUDIES OF ALTERNATIVE INGREDIENTS IN YELLOW PERCH DIETS

3:45  Brian Shepherd, Osvaldo Sepulveda Villet, Frederick Goetz, Fred Binkowski
STATUS AND PROSPECTS FOR THE YELLOW PERCH GENETIC IMPROVEMENT PROGRAM IN MILWAUKEE, WISCONSIN

4:00  Hanping Wang, Hong Yao, Paul O’Bryant, Dean Rapp, Laura Tiu, Geoff Wallat
GENETIC IMPROVEMENT OF YELLOW PERCH THROUGH COMMERCIAL-SCALE MARKER-AIDED COHORT SELECTION FOR GROWTH

4:15  Nour Eissa, Han-Ping Wang, Zhigang Shen, Hong Yao, Paul O’Bryant, Dean Rapp
PHYSIOLOGICAL AND MOLECULAR STRESS RESPONSE OF YELLOW PERCH SUBJECTED TO HANDlings AT DIFFERENT TEMPERATURES

INDOOR INTENSIVE SHRIMP PRODUCTION –
LESSONS LEARNED THROUGH THE USMSFP AND BEYOND
Sunday, February 24  1:30 - 5:30  Room 205
Chair: John Leffler

1:30  Craig Browdy
PERSPECTIVES ON THE DEVELOPMENT OF SHRIMP BIOFLOC TECHNOLOGIES

1:45  Andrew Ray, Jeffrey Lotz
RECENT INDOOR SHRIMP Litopenaeus vannamei PRODUCTION RESEARCH AT THE GULF COAST RESEARCH LABORATORY

2:15  Tzachi M. Samocha, Timothy C. Morris, Andre Braga, Vita Magalhaes, Rodrigo Schveltzer, Dariano Krummenauer, Eudes S. Correia, Jong Sheek Kim, John J. Austin, Jeet K. Mishra, Josh Burger, Bob Advent, Terry Hanson
SHRIMP PRODUCTION IN GREENHOUSE-ENCLOSED SUPER-INTENSIVE BIOFLOC SYSTEMS AT THE TEXAS A&M AGRILIFE RESEARCH MARICULTURE LAB: 2003-2012

3:00  BREAK

3:30  John Leffler, Jeffrey Brunson, Jason Haveman, Andrew Ray, Tracey Schock, Al Stokes, Craig Browdy
LESSONS LEARNED ABOUT PRODUCING SHRIMP IN INTENSIVE INDOOR BIOFLOC SYSTEMS AT THE WADDELL MARICULTURE CENTER: 2007-2012

4:00  James Anderson
PRODUCER PERSPECTIVE ON LESSONS PROVIDED BY USMSFP RESEARCH
4:15  Thomas R. Zeigler  
PERSPECTIVES ON THE CONTRIBUTIONS OF THE USMSFP TO THE CURRENT STATUS AND FUTURE POTENTIAL OF INDOOR SHRIMP PRODUCTION

4:30  PANEL DISCUSSION

OYSTERS
Sunday, February 24  1:30 - 5:30  Room 110
Chair: Chris Davis

1:30  Stephanie Tobash Alexander, Bob Carey, Melissa Grant, Steven Weschler, Emily Vlahovich, Dakota Abbott, Lisa Guy, Melissa Radcliffe, E. Alan Roache, Stacey Willey, Donald W. Meritt  
INNOVATIVE APPROACH TO CONDITIONING EASTERN OYSTER *Crassostrea virginica* BROODSTOCK FOR LATE SEASON HATCHERY PRODUCTION

1:45  Melissa Grant, Stacey Willey, Jeff Alexander, Emily Vlahovich, Stephanie Tobash Alexander, Dakota Abbott, Bob Carey, Lisa Guy, Melissa W. Radcliffe, E. Alan Roache, Steven Weschler, Donald W. Meritt  
INNOVATIVE METHOD TO PRODUCE TRIPLOID EASTERN OYSTER *Crassostrea virginica* LARVAE

2:00  Brian Callam, Standish K. Allen, Jr., Anu Frank-Lawale  
GROWTH AND SURVIVAL OF TRIPLOID EASTERN OYSTERS *Crassostrea virginica* IN A LOW SALINITY ENVIRONMENT

2:15  Aude Jouaux, Nolwenn Dheilly, Kristell Kellner, Pascal Favrel, Pierre Boudry, Michel Mathieu, Christophe Lelong  
GAMETOGENETIC EVENTS IN ALPHA AND BETA PATTERNS OF TRIPLOID OYSTERS *Crassostrea gigas*: HISTOLOGICAL AND MICROARRAY TRANSCRIPTOMIC APPROACHES TO UNDERSTAND OPPOSITE COURSE OF GAMETOGENESIS

2:30  Masao Iizuka, Toshihiro Nagasaki, Keisuke G. Takahashi, Makoto Osada, Naoki Itoh  
A PEPTIDOGLYCAN RECOGNITION PROTEIN INDUCES HEMOCYTE DEGRANULATION IN THE PACIFIC OYSTER *Crassostrea gigas*

3:00  BREAK

3:30  Melissa Southworth, Roger Mann, Patricia McGrath, Michael Congrove  
FECUNDITY OF OYSTERS *Crassostrea virginica* ESTIMATED FROM SPAWNING OF FIELD COLLECTED INDIVIDUALS

3:45  Stephan Classen, Maria Haws, Jon-Pierre Michaud, Kennedy T. Paynter  
RESPIRATION RATE OF THE HAWAIIAN OYSTER *Dendostrea sandvicensis* IN VARYING THERMAL CONDITIONS

4:00  Dan Kauffman, Karen Hudson, Mike Jahncke, Thomas Murray  
OYSTER SENSORY PROFILES AND FARM BUDGETS

4:15  Daniel Lemos, Darien Mizuta, Christine Fischer, Nelson Silveira-Junior  
REGIONAL OCEANOGRAPHIC ASSESSMENT TO ASSIST MANAGEMENT AND TO PREDICT GROW-OUT PERFORMANCE IN COMMERCIALY FARmed PACIFIC CUPPED OYSTER *Crassostrea gigas* IN THE SEA
4:30  **David Love**, Cynthia Bashore, Hillary Lane, Kennedy Paynter, Mike Naylor
ILLEGAL HARVESTING OF OYSTERS *Crassostrea virginica* IN THE MARYLAND PORTION OF THE CHESAPEAKE BAY, UNITED STATES FROM 1959 TO 2010

4:45  **Brett Dumbauld**, Jessica Ramsay, Jennifer Ruesink, Alan Trimble, Matthew Gray
ECOSYSTEM SERVICES PROVIDED BY OYSTER AQUACULTURE IN WILLAPA BAY, WASHINGTON (USA) COMPARED WITH HISTORICAL ESTIMATES FOR NATIVE OYSTERS

5:00  **Ana Rubio**, Andy Myers, Peter Coad, Sue McIntyre
AN OYSTER INDUSTRY LED APPROACH TO IMPROVING PRACTICES AND ENSURING LONG TERM INDUSTRY VIABILITY – ESTUARY-WIDE ENVIRONMENTAL MANAGEMENT SYSTEMS

5:15  **Andrea Larsen**, Scott Rikard, William Walton, Cova Arias
THE EFFECTS OF TEMPERATURE ON THE EFFICACY OF HIGH SALINITY DEPURATION OF *Vibrio vulnificus* FROM THE EASTERN OYSTER *Crassostrea virginica*

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**ECONOMICS AND MARKETING**
Sunday, February 24   1:30 - 5:30   Room 109
Chair: Frank Asche

Sponsor: International Association of Aquaculture Economics and Management

**Moderator: Cathy Roheim**

1:30  **Roy Palmer**
MEGA-TRENDS AND WHAT THEY MEAN TO AQUACULTURE INDUSTRY

1:45  **Sverre Braathen Thyholdt**, Eivind Hestvik Braekkan
WORLD DEMAND GROWTH OF ATLANTIC FARMED SALMON

2:00  **Yuko Onozaka**, Arne Sorvig, Ragnar Tveteraas
WHO IS EATING WHAT AND WHY? CHARACTERISTICS OF MARKET SEGMENTS IN SEAFOOD CONSUMPTION USING MULTI-COUNTRY, MULTI-SPECIES DATA

2:15  **Cathy A. Roheim**, Julie Santos
MISLABELING SEAFOOD PRODUCT WEIGHT: ESTIMATES OF ECONOMIC COSTS OF FRAUD

2:30  **Thomas A. Larsen**
THE VALUE OF ECO-LABELING AND OTHER ATTRIBUTES: AN EXPLORATION OF PRICE PREMIUMS FOR WILD AND FARMED SALMON IN U.K. SUPERMARKETS

2:45  **Kolter Kalberg**, Kelly Davidson, Minling Pan, Wuyang Hu
EVALUATION OF THE GEOGRAPHIC IMPACT ON CONSUMER PREFERENCES FOR AQUACULTURE AND WILD CAPTURED SEAFOOD; AN INTERACTION ANALYSIS APPROACH TO THE CONJOINT CHOICE MODEL

3:00  **BREAK**
SEASONAL AND SPATIAL VARIATION IN DEMAND FOR AND ELASTICITIES OF FISH PRODUCTS IN THE UNITED STATES: AN ANALYSIS OF MARKET-LEVEL SCANNER DATA

TESTING ADVERTISING-INDUCED ROTATION OF DEMAND CURVES IN EU SALMON MARKET

RETAIL CONCENTRATION IN THE SPANISH SEAFOOD INDUSTRY

CHINA’S IMPACT ON GLOBAL SEAFOOD MARKET: A STRUCTURAL APPROACH

CAN WEB-SEARCH QUERIES HELP IN PREDICTING THE PRESENT? AN APPLICATION ON UNBREADED FROZEN TILAPIA FILLETS IN THE U.S.

PRICE TRANSMISSION IN NEW SUPPLY CHAINS – THE CASE OF SALMON IN FRANCE

ANALYSIS OF PRICE TRANSMISSION FOR FARM-RAISED CATFISH OF THE U.S.

GLOBALIZATION OF SEAFOOD MARKETS – TESTING MARKET INTEGRATION USING DYNAMIC FACTOR ANALYSIS

SUNDAY

STRIPE BASS GROWERS ASSOCIATION INDUSTRY FORUM
Sunday, February 24  1:30 - 5:30  Room 202
Moderator: Marc J. Turano

2012 US HYBRID STRIPED BASS INDUSTRY UPDATE

UPDATES FROM THE NATIONAL AQUACULTURE ASSOCIATION

DISEASE TESTING AND EXPORTS TO CANADA: WHAT NEEDS TO BE DONE NOW, AND WHAT THE FUTURE MAY HOLD FOR THE HSB INDUSTRY

DISSOLVED OXYGEN EFFECTS ON HYBRID STRIPED BASS GROWTH

IDEAL PROTEIN OPTIMIZATION OF HYBRID STRIPED BASS DIETS

BREAK
APPLICATIONS OF BIOTECHNOLOGY IN AQUACULTURAL SYSTEMS
Sunday, February 24 3:30 - 5:30  Room 206
Chairs: Dave Kuhn, Greg Boardman

3:30  David Kuhn
BENEFITS AND APPLICATION OF BIOTECHNOLOGY IN AQUACULTURE

3:45  David E. Brune
AQUACULTURE BIOPROCESSING OF MICROALGAL BIOMASS ENABLING SUSTAINABLE SEAFOOD PRODUCTION

4:00  David Drahos, Seth D’Imperio
APPLICATIONS OF RECENT MOLECULAR TOOLS FOR BENEFICIAL MICROBES IN AQUACULTURE

4:15  Tracey Schock, John Leffler, Daniel Bearden
METABOLICOMICS IN AQUACULTURE

4:30  Christopher Good, Sandi Wong, Thomas Waldrop, Steven Summerfelt, John Davidson, Brett Kenney, Frederic Barrows, Timothy Welch, Gregory Wiens, Kevin Snekvik, John Rawls
INVESTIGATING THE IMPACT OF DIET TYPE (FISHMEAL- VS. GRAIN-BASED) AND DENSITY ON THE PERFORMANCE, HEALTH, WELFARE, FILLET QUALITY, AND INTESTINAL MICROBIOTA COMPOSITION OF RAINBOW TROUT *Oncorhynchus mykiss*

4:45  Jack Crockett, Addison Lee Lawrence, David Kuhn
USING THE BIOREACTOR CONCEPT – SHALLOW WATER NURSERY SYSTEM FOR THE PRODUCTION OF JUVENILE SHRIMP
FRESHWATER MUSSELS
Sunday, February 24     3:30 - 5:30     Room 102
Chair: Danielle Kreeger

3:30  Juergen Geist
CAPTIVE BREEDING OF ENDANGERED FRESHWATER MUSSELS: REQUIRED
KNOWLEDGE, CURRENT PROGRESS AND RISK AVOIDANCE

3:45  Andrew McElwain, Stephen Bullard
CELLULAR ANATOMY OF THE DIGESTIVE TRACT OF ALABAMA RAINBOW
Villosa nebulosa TOWARDS AN UNDERSTANDING OF TROPHIC BOTTLENECKS TO
CULTURE AND STOCK ENHANCEMENT OF FRESHWATER MUSSELS

4:00  Andrew McElwain, Paul Johnson, Stephen Bullard
HISTOPATHOLOGY OF INFECTIONS BY Unionicola cf. tumida IN GILL AND MANTLE
OF ALABAMA CREEKMUSSEL Strophitus connasaugaensis, A FRESHWATER
MUSSEL SPECIES WITH HIGH AQUACULTURE POTENTIAL

4:15  Melanie Mills, Danielle Kreeger, Roger Thomas, Angela Padeletti, Priscilla Cole
OCCURRENCE OF FRESHWATER MUSSELS (UNIONIDAE) IN SURVEYED STREAMS
OF SOUTHEASTERN PENNSYLVANIA AND THE POTENTIAL USE OF BROODSTOCK
FOR RESTORATION AQUACULTURE

4:30  Danielle Kreeger, Roger Thomas, Melanie Mills, Angela Padeletti, Priscilla Cole,
Lance Butler
POTENTIAL WATER QUALITY BENEFITS AND RESTORATION PROSPECTS OF
FRESHWATER MUSSELS IN THE TIDAL DELAWARE RIVER

4:45  Teresa J. Newton, Steve J. Zigler
MODELING FRESHWATER MUSSEL HABITAT IN A LARGE RIVER:
HOW UNDERSTANDING PROCESSES CAN AID IN RESTORATION EFFORTS

5:00  Angela T. Padeletti, Danielle Kreeger
USE OF RELOCATED, PIT-TAGGED FRESHWATER MUSSELS FOR PRIORITIZING
STREAMS FOR RESTORATION

5:15  Katherine A. McGraw, Danielle Kreeger
OPTIONS FOR RESTORING FRESHWATER MUSSELS UNDER THE NATURAL
RESOURCE DAMAGE ASSESSMENT (NRDA) PROCESS
3:30 Miguel Mies
GIANT CLAM AQUACULTURE: CONSTRAINTS

3:45 Wilson L. Tisera, Maria Rio A. Naguit, Jotham Ninef, Beatrix M. Rehatta
STATUS OF TRIDACNID CLAMS IN EAST NUSA TENGGARA REGION, INDONESIA

4:00 M. Terzich
COMMERCIALIZATION OF Tridacna maxima FROM FRENCH POLYNESIA FOR THE AQUARIUM TRADE

4:15 Maria Rio Abdon Naguit, Wilson Tisera, Beatrix Rehatta
MARICULTURE OF GIANT CLAMS IN KUPANG, EAST NUSA TENGGARA PROVINCE, INDONESIA

4:30 Miguel Mies, Marie-Anne Van Sluys, Cushla Metcalfe, Paulo Yukio Gomes Sumida
OCURRENCE OF SYMBIOSIS BETWEEN THE ZOOXANTHELLA Symbiodinium sp. AND THE VELIGER LARVA OF THE GIANT CLAM Tridacna maxima

4:45 Ma. Junemie Hazel Lebata-Ramos, Ellen Flor Doyola-Solis, Joemel G. Sumbing, Jeff Bogart R. Abrogueña
THE ROLE OF MPAS IN THE SUCCESS OF GIANT CLAM Tridacna gigas RESTOCKING IN CENTRAL PHILIPPINES: A COMPARISON OF GROWTH AND SURVIVAL FROM THREE OCEAN NURSERIES

5:00 Barbara J. Sheppard
REVIEW OF PERKINSUS INFECTION IN GIANT CLAMS

MARINE AQUACULTURE COP – BENEFITS AND APPLICATIONS
Sunday, February 24  3:30 - 5:30  Room 209
Chair: Anoushka Concepcion

3:30 Anoushka Concepcion, Craig Wood, David Cline, Vanessa Weldon, Matthew Parker, David Landkamer, Lisa Calvo, Joshua Reitsma
eXtension – LAUNCH OF THE MARINE AQUACULTURE COMMUNITY OF PRACTICE (CoP)

5:15 Tetsuzan Benny Ron, Barbara McLain
AQUACULTUREHUB: THE ROLE OF A SOCIAL NETWORK IN AQUACULTURE EXTENSION
TUNA
Monday, February 25  8:30 - 12:30  Room 207
Chairs: Alex Buentello, Yoni Zohar

8:30  Gina Shamshak
ASSESSING THE FEASIBILITY OF BLUEFIN TUNA AQUACULTURE IN THE UNITED STATES: OPPORTUNITIES, CHALLENGES AND FUTURE DIRECTIONS

9:00  John Stieglitz, Daniel Benetti, Ronald Hoenig, Jorge Suarez, Sasa Miralao, Zack Daugherty, Juan Sierra de la Rosa, Matthew Taynor, Carlos Tudela
ADVANCING AQUACULTURE OF TUNA AND OTHER "HIGH-PERFORMANCE" PELAGIC SPECIES

9:15  Rex Ito, Eric Pedersen
LATEST STRATEGIES IN BLUEFIN RANCHING

9:30  Yasuo Agawa, Takafumi Komiya, Tomoki Honryo, Toru Kobayashi, Michio Kurata, Tokihiko Okada, Yoshifumi Sawada
IDENTIFICATION OF A MALE CHARACTERISTIC DNA MARKER OF AQUACULTURED PACIFIC BLUEFIN TUNA Thunnus orientalis

9:45  Edward Chesney, Adam Younes
SPAWNING HIGHLY MIGRATORY OCEANIC FISHES AT SEA

10:00  BREAK

10:30  Daniel Margulies, Vernon P. Scholey, Jeanne B. Wexler, Maria S. Stein, Yoshifumi Sawada, Yang-Su Kim, Tomoki Honryo, Angel Guillen
COMPARATIVE RESEARCH ON THE REPRODUCTIVE BIOLOGY AND EARLY LIFE HISTORY OF PACIFIC BLUEFIN TUNA Thunnus orientalis AND YELLOWFIN TUNA Thunnus albacares

10:45  Jennifer M. Cobcroft, Pollyanna I. Hilder, Nathan S. Hart, Stephen C. Battaglene
DEVELOPMENT OF VISION AND THE EARLY FEEDING RESPONSE OF SOUTHERN BLUEFIN TUNA LARVAE

11:00  Bill Koven, Oriya Nixon-Shtupler, Shimrit Avraham, Jack Falcon, Laurence Besseau, Marilyn Escande, Suliman El Sadin, Anton Levitan, Amos Tandler
THE COMBINED EFFECT OF DHA AND TAURINE IMPROVES RETINAL DEVELOPMENT, PREY INGESTION AND GROWTH IN FIRST FEEDING LARVAE OF ATLANTIC BLUE FIN TUNA Thunnus thynnus

11:15  Tomoki Honryo, Michio Kurata, Ai Sumitomo, Yoshifumi Sawada
THE EXPLORE OF POSSIBLE INITIAL SWIMBLADDER INFLATION PERIODS AND TIME OF DAY ON PACIFIC BLUEFIN TUNA Thunnus orientalis

11:30  Nicole T. Kirchhoff
HEALTH AND PERFORMANCE OF RANCHED SOUTHERN BLUEFIN TUNA T. maccoyii
8:30  **Daniel Rittschof**, Beatriz Orihuela, Tara Essock-Burns, Tom Schultz
      BARNACLES, BLUE CRABS AND NEW MOLECULAR TECHNIQUES FOR AQUACULTURE?

8:45  **Gilbert Walker**, Nikhil Gunari, Claudia Grozea, Drew MacNeil, John Finlay, Maureen Callow, James Callow
      BLOCK COPOLYMERS FOR FOULING INHIBITION

9:00  **Michael R. Detty**, Joseph J. Bailey, Lisa M. Muller, Caitlyn Gatley, Frank V. Bright, Grant T. Waltz, Lenora H. Brewer, Dean E. Wendt, John A. Finlay, Maureen E. Callow, James A. Callow, Jill Fornalik
      XEROGEL COATINGS WITH ANTI-FOULING AND FOUL-RELEASE PROPERTIES FROM LONG-CHAIN ALKYL, FLUOROALKYL, AND PEG COMPONENTS

9:15  **Emiliano Pinori**, Mattias Berglin, Lena M. Brive, Hans Elwing
      LOW EMISSION ANTIFOULING – EMBEDDED BIOCIDE

9:30  **Steven Fisher**, Alex Walsh
      A NEW NON-COPPER CONTAINING MARINE ANTI-FOULING COATING FOR AQUACULTURE GEAR

9:45  **Jonathan Wilker**, Erik Alberts, Jessica Roman, Chelsey Del Grosso
      A POTENTIAL CORRELATION BETWEEN ADHESIVE COMPOSITION AND SHELLFISH MORPHOLOGY

10:00 BREAK

10:30  **Neeraj Gohad**, Pranjal Gohad, Andrew Mount
      NOTES ON THE FOOT OF THE PEDIVELIGER LARVAE OF PACIFIC OYSTER *Crassostrea gigas* FROM ULTRASTRUCTURE TO THE LOCATIONS OF ADRENERGIC-LIKE RECEPTORS

10:45  **Andrew S. Mount**
      THE PACIFIC OYSTER GENOME AND CELLULAR BIOMINERALIZATION

11:00  **Tara Essock-Burns**, Ariel Tarrell, Prince Mathai, Neeraj V. Gohad, Andrew S. Mount, James S. Maki, Daniel Rittschof
      INTERACTIONS BETWEEN BIOFILM BACTERIA AND BARNACLES *Balanus amphitrite*

11:15  **Any Dunham**, Robert D. Marshall
      EFFECTS OF NOVEL GROWTH MEDIA AND STOCKING DENSITY ON BIOFOULING, SHELL CHARACTERISTICS, AND GROWTH OF BIVALVES IN SUSPENDED CULTURE
Reproduction and Development – Moderator: L. Curry Woods III

8:30 Penny Swanson, José M. Guzmán, J. Adam Luckenbach, Yoji Yamamoto, Michael P. Bernard, William R. Moyle
DEVELOPMENT OF PISCINE RECOMBINANT GONADOTROPIN ANALOGS TO STUDY GONADOTROPIN FUNCTION AND CONTROL OVARIAN GROWTH IN FINFISH

9:00 Benjamin J. Reading, Craig V. Sullivan, Justin D. Schilling, Valerie N. Williams, Norm Glassbrook, Naoshi Hiramatsu, Wenshu Luo, Hiroko Mizuta, Takashi Todo, Akihiko Hara
MULTIPlicity OF VITELLOGENINS AND THEIR RECEPTORS IN GENUS Morone

9:15 Julien Bobe, Thomas Desvignes, Aurélien Bouleau, Juan-Martin Traverso, Thaovi Nguyen, Christian Fauvel, Franck Chesnel
MOLECULAR MECHANISMS CONTROLLING EGG QUALITY

9:30 L. Curry Woods III, H. David Guthrie, Glenn R. Welch, Adam Fuller
ISOLATION OF RNA FROM STRIPED BASS Morone saxatilis SPERMATOZOA: IMPLICATIONS FOR TELEOST MALE FERTILITY AND BEYOND?

9:45 Tyler Frankel, Daniel Theisen, Howard Guthrie, Glenn Welch, Lewis Woods III
THE EFFECT OF FREEZING RATE ON THE QUALITY OF STRIPED BASS Morone saxatilis SPERMATOZOA

10:00 BREAK

10:30 Peter Thomas, Wenxian Tan, Yosi Aizen
MECHANISM OF PROGESTIN UPREGULATION OF SPERM MOTILITY AND FERTILITY IN SOUTHERN FLOUNDER AND ATLANTIC CROAKER

10:45 Rex Dunham, Dayan Perera, Mei Shang, Eric Peatman, Elizabeth Lipke, Michael Fobes, Michael Irwin, Zhenkui Qin
XENOGeneric STEM CELL AND ZINC FINGER TECHNOLOGY FOR RAPID GENE KNOCKOUT

11:00 Kris A. Christensen, Joseph P. Brunelli, Matthew J. Lambert, Jenefer DeKoning, Ruth B. Phillips, Gary H. Thorgaard
IDENTIFYING SINGLE NUCLEOTIDE POLYMORPHISMS IN AN ORGANISM WITH A RECENT WHOLE GENOME DUPLICATION

11:15 Gary Thorgaard, Paul Wheeler, Kyle Martin, Jim Parsons, Joseph Brunelli
GENETIC SEX REVERSAL IN RAINBOW TROUT

11:30 Yonathan Zohar
INSIGHTS FROM ZEBRAFISH TOWARDS IMPROVING REPRODUCTION CONTROL IN AQUACULTURE

11:45 Adam Luckenbach, Elizabeth Smith, William Fairgrieve
MOLECULAR SEX DIFFERENTIATION AND STRATEGIES FOR SEX CONTROL IN SABLEFISH Anoplopoma fimbria
12:00 Yass Kobayashi, Cassie Schmidtberger, Abigail Pflughoeft, David Spalsbury
CHANGES IN BRAIN EXPRESSION OF KISSPEPTIN-1 mRNA IN WALLEYE DURING DIFFERENT LIFE STAGES

MULTI-YEAR GROWTH AND REPRODUCTIVE PATTERNS OF DIPLOID AND TRIPLOID ATLANTIC COD Gadus morhua

12:30 Lucius Caldwell, Larry Riley, Christine Duncan, Andrew Pierce, James Nagler
METABOLIC AND REPRODUCTIVE ENDOCRINE SIGNALS OF REPEAT SPAWNING IN POST-SPAWNED FEMALE Oncorhynchus mykiss

GILLS – GLOBAL INITIATIVE FOR LIFE AND LEADERSHIP
Monday, February 25  8:30 - 12:30  Room 110
Chair: Roy Palmer

8:30 Roy Palmer
CREATING AND SUSTAINING GILLS

9:00 Antonio Garza de Yta
OPPORTUNITIES TO LIFT CONSUMPTION – THE CASE FOR MEXICO

9:15 José Fernández-Polanco
DETERMINANTS OF SEAFOOD CONSUMPTION

9:30 Troy Hahn
COMMUNICATING SEAFOOD AND HEALTH – GILLS APPROACH

10:00 BREAK

10:30 Steven Hedlund, Roy Palmer
THE ROLE OF CERTIFICATION AND STANDARDS WITH SEAFOOD AND HEALTH

10:45 Gary Fornshell
EDUCATIONAL EFFORTS TO INCREASE SEAFOOD CONSUMPTION IN THE UNITED STATES

11:00 Angela Caporelli
THE MOBILE PROCESSING UNIT (MPU); APPLICATION FOR LOCAL, SMALL AND UNDERSERVED AQUACULTURE FARMERS IN KENTUCKY AND BEYOND

11:15 Karl D. Shearer
CONCENTRATED AQUATIC ANIMAL FEEDING OPERATIONS (CAAFOs) AND THE GLOBAL FOOD SUPPLY

11:30 Jack Kruse
THE BASE OF THE PROTEIN/FAT PYRAMID OF THE EPI PALEO Rx

11:45 Q&A

12:00 GILLS MOVING FORWARD (in Memory of Dr. M.C. Nandeesha)
TIPS FOR THE YOUNG AQUACULTURE PROFESSIONAL  
Monday, February 25     8:30 - 10:00     Room 202  
Chair: Aaron Watson

8:30 Christopher Green  
THE ADVANTAGES (AND DISADVANTAGES) OF A DIVERSE SKILL SET AS A  
YOUNG PROFESSIONAL IN AQUACULTURE RESEARCH

8:45 Gary L. Jensen  
TRENDS AND OUTLOOK FOR FEDERAL EXPENDITURES SUPPORTING  
AQUACULTURE RESEARCH AND DEVELOPMENT IN THE UNITED STATES

9:00 Matthew A. DiMaggio  
POSTDOCTORAL TRAINING IN AQUACULTURE – LIFE AFTER THE Ph.D.

9:15 Gwenn Merry  
AQUACULTURE JOBS IN THE US: WHAT TO EXPECT FROM THE PRIVATE SECTOR

9:30 Michael Schwarz, Stephen Urick  
TIPS FOR THE YOUNG AQUACULTURE PROFESSIONAL – BREAKING OUT OF THE  
TRADITIONAL UNDERGRADUATE/GRADUATE EDUCATIONAL MODEL

9:45 Beth M. Cleveland  
RESEARCH AND CAREER OPPORTUNITIES FOR STUDENTS WITH THE USDA  
AGRICULTURAL RESEARCH SERVICE

ENGINEERED AQUAPONICS  
Monday, February 25     8:30 - 12:30     Room 206  
Chair: Michael Timmons  
Sponsor: Aquacultural Engineering Society

8:30 John Pade  
A GLOBAL LOOK AT THE AQUAPONICS INDUSTRY

9:00 Rebecca Nelson  
AQUAPONICS, A HYBRID, INTEGRATED SYSTEM

9:30 Todd Guerdat, James M. Ebeling, Erik Kopache  
APPLYING ENGINEERING PRINCIPLES TO THE DESIGN OF RECIRCULATING  
AQUAPONICS SYSTEMS (RAqS) TO MAXIMIZE PRODUCTIVITY AND ECONOMIC  
VIABILITY

9:45 Edward Aneshansley  
PHYTOREMEDIATION OF HEAVY METALS IN CLOSED RECIRCULATION  
AQUACULTURE SYSTEMS (RAS) USING AQUAPONIC TECHNOLOGY

10:00 BREAK

10:30 Gregory N. Whitis  
COMMERCIAL POTENTIAL OF A FULL SIZE UNIVERSITY OF VIRGIN ISLANDS  
RAFT AQUAPONIC SYSTEM IN THE SOUTHEASTERN U.S.: EXPERIENCES OF  
OPERATING A SCALED DOWN SYSTEM FOR EIGHT YEARS
10:45 **Stephen Kash**, Matthew Bowker, M. B. Timmons
RASPONICS™: A NEW APPROACH TO COMBINING RAS FISH CULTURE WITH HYDROPONICS

11:00 **Chito Sace**, Kevin Fitzsimmons
RECIRCULATING AQUAPONIC SYSTEM USING NILE TILAPIA *Oreochromis niloticus* AND FRESHWATER PRAWN *Macrobrachium rosenbergii* POLYCULTURE AND THE PRODUCTIVITY OF SELECTED LEAFY VEGETABLES

11:15 **Michael Finnegan**
STARTUP CHALLENGES FOR A SMALL FARM EMBRACING AQUAPONICS

11:30 **Charlie Johnson**
ECOLOGICALLY BALANCED VERTICAL AQUAPONICS SYSTEMS – BRINGING PROSPERITY TO CITY AND COUNTRY WORLD-WIDE

11:45 **Melissa L. LeGrand**, Jospeh E. Morris, D. Allen Pattillo
IMPLICATIONS OF SUBSTRATE TYPE FOR PLANT GROWTH IN AN AQUAPONICS SYSTEM IN IOWA

12:00 **Patricia Duncan**, Ann Gillespie
SUSTAINABLE AQUACULTURE IN SMALL-SCALE RECIRCULATING SYSTEMS WITH FISH WASTE RECYCLING THROUGH AQUAPONICS, AQUATIC MACrophyTES AND AMPHIPODS

12:15 **William Falls**, Hans Geissler, Phil Reasons, Jaime Guerra, Peter Rubec, Mark Homesteader, Don Luttrel
SUSTAINABLE AQUAPONICS: A TOOL FOR EDUCATION, FOOD, AND RESEARCH

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**CLAMS AND GEODUCKS**

Monday, February 25  8:30 - 12:30  Room 104
Chair: Joth Davis

8:30 **Glenn R. VanBlaricom**, P. Sean McDonald, Jennifer L. Price, Kathleen C. McPeek, Aaron W.E. Galloway, Jeffrey R. Cordell, Megan N. Dethier, David A. Armstrong
ECOLOGICAL CONSEQUENCES OF GEODUCK CLAM *Panopea generosa* (GOULD, 1850) AQUACULTURE FOR BENTHIC COMMUNITIES OF INTERTIDAL SAND FLATS IN SOUTHERN PUGET SOUND, WASHINGTON USA: A SUMMARY OF FINDINGS, 2008-2012

8:45 **Joth Davis**, Brent Vadopalas, Carolyn Friedman
MATURATION AND RELATIVE FECUNDITY OF CULTURED PACIFIC GEODUCKS *Panopea generosa* IN PUGET SOUND, WASHINGTON

9:00 **Ignacio Leyva-Valencia**, B. Vadopalas, D. B. Lluch-Cota, P. Cruz-Hernández, D. I. Rojas-Posadas
RECLASSIFICATION OF *Panopea generosa* var. *taeniata* (DALL, 1918) AS A FOSSIL MORTHYTYPE OF *Panopea globosa* (DALL, 1898)

9:15 **Joth Davis**, Brent Vadopalas, Molly Jackson, Andy Suhrbier, Dan Cheney, Mary Middleton, Bobbi Hudson, Kristin Rasmussen, Carolyn Friedman
PERFORMANCE OF TRIPLOID PACIFIC GEODUCKS *Panopea generosa* IN PUGET SOUND, WASHINGTON
9:30  E. Alberto Aragón-Noriega, Jaime E. Mendivil-Mendoza, Edgar Alcántara-Razo
ENVIRONMENTAL EFFECTS ASSOCIATED WITH POPULATION STRUCTURE, DISTRIBUTION AND DENSITY OF CORTES GEODUCK *Panopea globosa* IN THE CENTRAL GULF OF CALIFORNIA

9:45  Gabriela Navas, Jonathan Geller, Brent Vadopalas
PRELIMINARY RESULTS ON GENETIC DIFFERENTIATION AND SHELL MORPHOLOGY OF THE PACIFIC GEODUCK *Panopea generosa* IN CALIFORNIA

10:00  BREAK

10:30  Daniel P. Cheney, Andrew D Suhrbier, William F. Dewey, Joao G. Ferreira, Jeff R. Cordell, Jonathan P. Davis
PRODUCTION AND ENVIRONMENTAL EFFECTS OF MANILA CLAM FARMING IN NORTH PUGET SOUND: COMPARISON OF YIELDS, WATER QUALITY, AND SEDIMENTS, AND RESPONSES OF BENTHIC COMMUNITIES AND MACROFAUNA

10:45  William Dewey, Andrew D. Suhrbier, Joao G. Ferreira, Jeff R. Cordell, Jonathan P. Davis, Daniel P. Cheney
ASSESSING THE EFFECTS OF MECHANIZED MANILA CLAM FARMING IN NORTH PUGET SOUND, WASHINGTON, USA

11:00  John Kraeuter, Mark Luckenbach, David Bushek
ASSESSING THE EFFECTS OF CLAM *Mercenaria mercenaria* AQUACULTURE ON NEKTONIC AND BENTHIC ASSEMBLAGES IN TWO SHALLOW WATER ESTUARIES

11:15  Lisa Milke, James C. Widman Jr., Anne Cohen, Daniel C. McCorkle, Barbara Ramon
EFFECTS OF ELEVATED PCO2 ON THE SHELL LENGTH OF LARVAL ATLANTIC SURFCLAM *Spisula solidissma*

11:30  Leslie Sturmer, John Scarpa, Chuck Adams, Steve Otwell, Rex Ellis, Todd Osborne
ELIMINATING BARRIERS TO COMMERCIAL PRODUCTION OF THE SUNRAY VENUS CLAM *Macrocallista nimbosa* IN FLORIDA

11:45  Emmanuelle Pales Espinosa, Arnaud Tanguy, Sophie Le Panse, François Lallier, Bassem Allam, Isabelle Boutet
ENDOSYMBIOTIC BACTERIA IN THE BIVALVE *Loripes lacteus*: LOCALIZATION, CHARACTERIZATION AND ASPECTS OF SYMBIONT REGULATION

12:00  Kendall Gadomski, Miles Lamare, Henrik Moller
REPRODUCTION AND LARVAL ECOLOGY OF A CULTURALLY IMPORTANT AND THREATENED BIVALVE, THE TOHEROA *Paphies ventricosa* IN SOUTHLAND, NEW ZEALAND
8:30 Myron Roth
INTRODUCTION

8:35 Christina Sommerville
SEA LICE CONTROL: A GLOBAL RESEARCH PERSPECTIVE

9:00 Shawn Robinson, Andrea Bartsch, Mathew Liutkus, Nathaniel Feindel, Paul Robertson, Keng Ang, Darin Cleaves, Terralynn Lander
SPATIAL DISTRIBUTION PATTERNS OF SEA LICE Lepeophtheirus salmonis LARVAE AROUND SALMON Salmo salar AQUACULTURE FARMS IN THE BAY OF FUNDY, CANADA

9:15 Ben Sutherland, Ben Koop
GENOMICS IN LICE AND SALMON (GiLS) PROJECT PROVIDES NEW TOOLS AND MECHANISMS FOR UNDERSTANDING LOUSE BIOLOGY

9:30 Richard Endris, Dafydd Morris
EVALUATION OF SENSITIVITY TO SLICE® (emamectin benzoate) IN Lepeophtheirus salmonis FROM NAÏVE, RESISTANT AND HYBRID POPULATIONS

9:45 Tor Horsberg
HOW LONG CAN SEA LICE BE CONTROLLED WITH CHEMICAL TREATMENTS?

10:00 BREAK

10:30 Randi Nygaard Grøntvedt
DEVELOPMENT OF AN AQUATIC INTEGRATED PEST MANAGEMENT – THE ONLY WAY TO CONTROL SEA LICE?

10:45 Sandra Bravo
SEA LICE CONTROL FROM THE CHILEAN PERSPECTIVE/EXPERIENCE

11:00 Kathy Brewer-Dalton, Cindy Webster
INTEGRATED PEST MANAGEMENT PLAN FOR SEA LICE IN NEW BRUNSWICK, CANADA

11:15 Peter Southgate, Myron Roth
INTEGRATED PEST MANAGEMENT AND THE CONTROL OF SEA LICE: A VETERINARY PERSPECTIVE

11:30 Nell Halse
SEA LICE AND SALMON FARMING – A BUSINESS PERSPECTIVE

11:50 PANEL DISCUSSION
SHRIMP HEALTH AND DISEASE
Monday, February 25     8:30 - 3:00     Room 205
Chair: Thales Passos de Andrade

8:30  Thales Passos de Andrade, Donald V. Lightner
INTRODUCING VIRTUAL MICROSCOPY TO SHRIMP PATHOLOGY EDUCATION

8:45 Sabrina Martorelli, Pilar Alda, Paula Marcotegui, Sergio Martorelli
TEACHING CRUSTACEAN PATHOLOGY THROUGHOUT AN E-LEARNING ENVIRONMENT USING VIRTUAL MICROSCOPY

9:00 Donald Lightner, Rita Redman, Carlos Pantoja, Brenda Noble, Linda Nunan, Loc Tran
EMERGENCE OF A NEW DISEASE IN SOUTHEAST ASIAN SHRIMP FARMS

9:15 Sergio R. Martorelli
CURRENT STATE OF KNOWLEDGE ABOUT OIE-NOTIFIABLE VIRAL PATHOGENS IN CRUSTACEANS FROM ARGENTINA

9:30 Eduardo Cunha, Henrique Figueiredo
SHRIMP HEALTH AND THE NEW DIRECTIVES OF THE BRAZILIAN MINISTRY OF FISHERIES AND AQUACULTURE

9:45 Duan Loy, J. Dustin Loy, Kurt Kamrud, D. L. Hank Harris, Lyric C. Bartholomay
EXPRESSION AND EVALUATION OF INFECTIOUS MYONECROSIS VIRUS PROTEIN1 IN SINDBIS DOUBLE SUBGENOMIC PROMOTER SYSTEM

10:00 BREAK

10:30 Tracey B. Schock, Jessica R. Duke, Abby Goodson, Daryl Weldon, Jeff Brunson, John W. Leffler, Daniel W. Bearden
AN NMR-BASED METABOLOMIC ASSESSMENT OF PACIFIC WHITE SHRIMP Litopenaeus vannamei HEALTH THROUGH A SUPERINTENSIVE AQUACULTURE GROWOUT

10:45 Melony Sellars, Min Rao, Jeff Cowley
RNA INTERFERENCE TO CLEAR VIRAL INFECTION FROM SHRIMP

11:00 Bing Hu, Peter Bossier, Patrick Sorgeloos
HEAT SHOCK PROTEIN 70 HOMOLOGUE DnaK IS RESPONSIBLE FOR THE IMMUNE RESPONSE ON WHITELEG SHRIMP Litopenaeus vannamei

11:15 Valeriano L. Corre Jr., Karen Grace S. Andrino
EFFECTS OF DIETARY MANNAN OLIGOSACCHARIDE (MOS) AND β-GLUCAN ON GROWTH AND SURVIVAL AGAINST WHITE SPOT SYNDROME VIRUS (WSSV) CHALLENGE INFECTION OF JUVENILE TIGER SHRIMP Penaeus monodon
CONSERVATION / RESTORATION ACTIVITIES FOR FINFISH
FROM A WEST COAST PERSPECTIVE
Monday, February 25     8:30 - 3:00     Room 203
Chair: Tom Flagg

8:30 Thomas Flagg
CONSERVATION STRATEGIES FOR NORTHWEST SALMON HATCHERIES –
ESA AND SUSTAINABLE FISHERIES CONCERNS

8:45 Desmond Maynard, Thomas Flagg
THE USE OF HATCHERY TECHNOLOGY FOR THE CONSERVATION OF PACIFIC
SALMON

9:00 Jeffrey C. Gislason
SALMON AND STEELHEAD CONSERVATION AQUACULTURE AS MITIGATION FOR
FEDERAL HYDROELECTRIC PROJECTS IN THE COLUMBIA RIVER BASIN:
A HISTORICAL PERSPECTIVE

9:15 Peter Paquet
ARTIFICIAL PRODUCTION OF RESIDENT FISH AS MITIGATION FOR LOSS OF
SALMON

9:30 Jay Hesse, Rebecca Johnson
INTEGRATING CONSERVATION HATCHERY PRINCIPLES WITH TRIBAL TREATY
RESERVED HARVEST OPPORTUNITIES

9:45 H. Lee Blankenship
THE PARADIGM SHIFT TO SELECTIVE FISHERIES FOR PACIFIC SALMON IN THE
PACIFIC NORTHWEST

10:00 BREAK

10:30 Peter F. Galbreath, Michael A. Bisbee, Jr., Cory M. Kamphaus, Todd H. Newsome
ARE HATCHERY EFFECTS FOREVER? USE OF HATCHERY STOCKS TO
REINTRODUCE EXTINGUISHED COHO SALMON TO THE INTERIOR COLUMBIA RIVER
BASIN

10:45 Paul A. Kline, Thomas A. Flagg, Jeffrey C. Gislason
SNAKE RIVER SOCKEYE SALMON RECOVERY; TRANSITIONING FROM
CONSERVATION TO RESTORATION

11:00 Christine Kozfkay, Dan Baker
GENETIC MANAGEMENT OF SNAKE RIVER SOCKEYE SALMON

11:15 David Fast
DEVELOPMENT AND OPERATION OF THE CLE ELUM SUPPLEMENTATION
RESEARCH FACILITY TO ENHANCE SPRING CHINOOK SALMON Oncorhynchus
tshawytscha IN THE YAKIMA RIVER, WASHINGTON

11:30 Eric Stark, Christine Kozfkay, Matthew Campbell
CONTRIBUTION OF CAPTIVE-REARED CHINOOK SALMON Oncorhynchus
tshawytscha TO NATURAL PRODUCTION IN AN IDAHO MOUNTAIN DRAINAGE
### MACROBRACHIUM

**Monday, February 25**  
**8:30 - 3:15**  
**Room 201**  
**Chairs:** Patricia Moraes Valenti, Michael New

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker(s)</th>
<th>Topic</th>
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<tbody>
<tr>
<td>8:30</td>
<td>Paul Sandifer, Louis D’Abramo, Spencer Malecha, James Tidwell</td>
<td>Early history and pioneers of freshwater prawn aquaculture</td>
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<tr>
<td>8:45</td>
<td>Michael Frinsko</td>
<td>Development and evaluation of practical live hauling and post-harvest holding strategies for freshwater prawn <em>Macrobrachium rosenbergii</em> in the U.S.</td>
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<td>9:15</td>
<td>Helcio Luis de Almeida Marques, Helenice Pereira Barros, Marcello Villar Boock, Margarete Mallasen</td>
<td>Integrated farming of freshwater prawns: a possible strategy for increasing sustainability in Brazilian aquaculture</td>
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<td>9:45</td>
<td>Louis R. D’Abramo</td>
<td>Effects of all male populations, substrate level, and dietary flaxseed oil on the production of freshwater prawns grown in earthen ponds under low input conditions</td>
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<td>10:00</td>
<td><strong>BREAK</strong></td>
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<td>10:30</td>
<td>James H. Tidwell, Shawn D. Coyle, Leigh Anne Bright, Charles Shultz, Zachary Kupchinsky, Craig Upstrom</td>
<td>Production comparison of all-male and mixed-sex freshwater prawns <em>Macrobrachium rosenbergii</em> in ponds</td>
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<tr>
<td>11:00</td>
<td>Maria Lourdes Cuvín-Aralar, Ursan de la Paz, Emiliano Aralar</td>
<td>Periphyton-based production of the giant freshwater prawn <em>Macrobrachium rosenbergii</em> cultured in lake-based cages</td>
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11:45 Erick Sturm, R. Bruce MacFarlane, Sean Hayes  
The use of a captive broodstock to prevent extinction and assist in the recovery of coho salmon *Oncorhynchus kisutch* in Scott Creek, Santa Cruz County, California

12:30 **LUNCH**

1:30 David E. Fast  
Evaluation of the feasibility of using reconditioned steelhead *Oncorhynchus mykiss* kelts to enhance natural spawning populations in the Yakima River in Washington State

1:45 David E. Fast  
Transporting adult sockeye *Oncorhynchus nerka* for reintroduction above an irrigation storage reservoir in the Yakima Basin in Washington State
11:30 Karina Ribeiro
AQUACULTURE AND ARTISANAL FISHERIES OF THE FRESHWATER PRAWNS IN BRAZILIAN SEMI-ARID REGION

11:45 Wagner C. Valenti, Cristiana R. Maciel
EFFECT OF TANK COLOR ON LARVAL PERFORMANCE OF THE AMAZON RIVER PRAWN Macrobrachium amazonicum

12:00 Kamran Rezaei Tavabe, Gholamreza Rafiee, Michael Frinsko, Harry Daniels
INVESTIGATION ON INFLUENCES OF DIFFERENT BRACKISH WATER SOURCES ON LARVAL QUALITY AND DEVELOPMENTAL INDICES OF FRESHWATER PRAWN Macrobrachium rosenbergii IN IRAN

12:15 Patricia Moraes-Valenti, Janaina M. Kimpara, Patricia Moraes-Valenti, Julio F. Queiroz, Michael B. New
EFFECTS OF INTENSIFICATION OF THE AMAZON RIVER PRAWN Macrobrachium amazonicum GROW-OUT ON EFFLUENT QUALITY

12:30 LUNCH

1:30 Brian L. Nerrie, Mark Guthrie
VERTICAL INTEGRATION OF SMALL-SCALE FRESHWATER SHRIMP FARM IN VIRGINIA

1:45 José Mario de Aquino Penteado, Danilo Cintra Proença, Wagner Cotroni Valenti
ANALYSIS OF PRODUCTIVITY OF AMAZON RIVER PRAWN Macrobrachium amazonicum IN FOUR NURSERY SYSTEMS

2:00 Caio Gomez Rodrigues, Wagner Cotroni Valenti
FEASIBILITY OF MULTITROPHIC FARMING OF AMAZON RIVER PRAWN AND NILE TILAPIA

2:15 Joshua Reitsma, Ed Osmun
FRESHWATER PRAWNS Macrobrachium rosenbergii AND AQUAPONICS SYSTEMS: AN EXPERIENCE OF ONE FARM

2:30 Tanatchaporn Utairungsee, Ratchanok Sirikharin, Isada Mungsuntisuk, Kallaya Sritunyalucksana, Anuphap Prachumwat, Timothy W. Flegel
SURVIVAL, DISEASE TOLERANCE UPON CHALLENGE Macrobrachium rosenbergii NODAVIRUS IN THE FRESHWATER PRAWN M. rosenbergii

2:45 María Cristina Morales, Macarena Contreras G., Jorge Moreno R., Carlos Mendez, Carmen Alvarez R., Mauricio Fernandez M., Jaime Meruane Z.
The Andean River Shrimp Cryphiops caementarius (DECAPODA:PALAEMONIDAE), A SOUTH AMERICA SPECIES RELATED WITH SHRIMPS OF MACROBRACHIUM GENUS

3:00 Jeane Rimber Indy, Jeane Rimber Indy, Lenin Arias-Rodriguez, Eudes de Souza Correia, Martha Alicia Perera-Garcia, José Manuel Piña Gutierrez
CHROMOSOMES ANALYSIS OF PAINTED RIVER SHRIMP Macrobrachium carcinus FROM MEXICO
MARINE AND FRESHWATER FINFISH CONTRIBUTED
Monday, February 25     8:30 - 5:00     Room 209
Chair: Luís André Sampaio

Moderators: Luis Andre Sampaio, Maria Celia Portella

8:30   Adan Oviedo-Pérez, Adolfo Sánchez-Zamora, Adan Oviedo-Aceves, Carlos Sandoval-Pineda
Centropomus undecimalis OBTAINED IN LAB: GROWTH OF JUVENILE IN FLOATING CAGES IN VERACRUZ, MEXICO

8:45   Artur N. Rombenso, Cauê B. Moreira, Luis A. Sampaio
CULTURE OF Caranx spp. IN NEAR-SHORE CAGES OFF THE BRAZILIAN COAST

9:00   James Wamboldt, Alan Wanamaker, Joseph Morris
EVALUATION OF PHASE I HYBRID STRIPED BASS CULTURE TECHNIQUES USING STABLE ISOTOPE ANALYSIS

9:15   Bartholomew Green, S. Adam Fuller, Matthew E. McEntire
EFFECT OF DAILY MINIMUM POND DISSOLVED OXYGEN CONCENTRATION ON HYBRID STRIPED BASS FINGERLING YIELD

9:30   Charles Hicks, Cindy Borgwordt, James Caldwell
A COMPARISON OF PRECISION IN METHODS OF EVALUATING GROWTH

9:45   Olivia Menossi, Rubens Antonio Felipe Turin, Juliana Tomomi Kojima, Thiago Mendes de Freitas, Maeli Dal Pai Silva, Maria Célia Portella
EFFECTS OF FASTING IN THE MUSCLE FIBER IN PACU Piaractus mesopotamiscus JUVENILE

10:00  BREAK

Moderator: Danilo Streit Junion

10:30  Jozef H. Blom
DEVELOPMENT OF THE EEL PRODUCTION IN EUROPE: FROM A ROLLERCOASTER RIDE TO A SUSTAINABLE FUTURE?

10:45  Tamás Müller, Hajime Matsubara, Ákos Horváth, László Horváth, Béla Urbányi, Yuki Kubara, Ottó Boltizár, Shinji Adachi, Katsutoshi Arai, Etsuro Yamaha
PROPAGATION AND HYBRIDIZATION OF EEL SPECIES Anguilla japonica × A. anguilla

11:00  Konrad Dabrowski, Macdonald Wick
AMERICAN EEL CULTURE – WORK PLAN FOR DEVELOPMENT OF RESEARCH AGENDA AND INDUSTRY

11:15  Lee A. Fuiman, Cynthia K. Faulk
DYNAMICS OF NUTRIENT TRANSFER FROM DIET TO EGGS IN RED DRUM Sciaenops ocellatus BROODSTOCK

11:30  Ákos Horváth, Zoltán Bokor, Gergely Bernáth, Éva Rabóczki, Dušan Jesenšek
SALMONID SPERM CRYOPRESERVATION METHODS ARE THE SAME FOR ALL SPECIES. OR MAYBE NOT... AN EXAMPLE OF THE MARBLE TROUT AND THE ADRIATIC GRAYLING
11:45  Katalin Szentes, Tamás Szabó, Balázs Csorbai, Gyula Borbély, Gergely Bernáth, Eszter Kása, Béla Urbányi, Gábor Tóth, Ákos Horváth
EFFECTS OF HORMONAL INDUCTION ON GONAD DEVELOPMENT OF FRESHWATER-REARED ASIAN SEA BASS Lates calcarifer

12:00  Huiping Yang, Ronald Walter, Terrence Tiersch
STRATEGIES FOR ESTABLISHMENT OF SPERM REPOSITORY FOR Xiphophorus FISHES

VIABILITY OF TAMBAQUI Colossoma macropomum SEMEN CONTAMINATED BY URINE, BLOOD OR FECES AFTER THAWING

12:30  LUNCH

Moderator: Artur Rombenso

1:30  Samuel Sanchez, Carmen Paniagua, Manuel Segovia
EVALUATION OF TWO EXTENDER SOLUTIONS FOR CRIOPRESERVATION OF SABLEFISH Anoplopoma fimbria SPERM

1:45  Munuswamy Natesan, Kuppusamy Umaa Rani
FERTILITY POTENTIAL OF CRYOPRESERVED AND CADAVERIC SPERMATOZOA IN THE FRESHWATER CATFISH Pangasius sutchi FOWLER (1937)

2:00  Samilla Macedo, Gleyciane L. Barbosa, Raimunda N.F.C. Neta
BIOMARKERS ASSOCIATED WITH REPRODUCTIVE ASPECTS OF CATFISH GURIBU Sciades herzbergii OF SÃO MARCOS BAY, MARANHÃO

2:15  Muhammad Naeem, Abdus Salam, Amina Zubari, Md Ashrafand Saima Yousaf
CROSS BREEDING OF SUSTAINABLE HYBRID, Hypophthalmichthys molitrix ♀ × Aristricthys nobilis ♂ WITH INTRAMUSCULAR INJECTION OF OVAPRIM–C AT ISLAMABAD, PAKISTAN

2:30  Bamidele Omitoyin, Emmanuel Kolawole Ajani, E. K. Fawole, Elijah Friday Osho
GROWTH, SURVIVAL AND HAEMATOLOGICAL RESPONSES OF Heterobranchus bidorsalis JUVENILES TO CHANGES IN PHOTOPERIOD

2:45  Neeshma Jaiswal, Anshu Malhotra, Sandeep K. Malhotra
MOLECULAR AND BIOECOLOGICAL CHARACTERISTICS OF FISH PARASITIC BIOINDICATORS

3:00  BREAK

3:30  Noor Khan, Grant Vandenberg, Naureen Qureshi
EFFECT OF SIMILAR FEEDING REGIME ON GROWTH AND BODY COMPOSITION OF INDIAN MAJOR CARPS Catla catla, Cirrhinus mrigala AND Labeo rohita UNDER MONO AND POLYCUVERAGE SYSTEMS
Veterinary Aspects of Fish Health & Disease – Moderator: A.D. Scarfe

8:30  Eleonor A. Tendencia
ECOSYSTEM APPROACH TO THE PREVENTION AND CONTROL OF *Penaeus monodon* DISEASES

8:45  Javier Santander, Taylor Martin, Amanda Loh, Roy Curtiss
INTRINSIC RESISTANCE TO ANTIMICROBIAL PEPTIDES OF *Edwardsiella ictaluri* AND ITS INFLUENCE ON VIRULENCE

9:00  Regg Neiger
SOUTH DAKOTA WILD GOLDFISH DIE OFF DUE TO CYPRINID HERPESVIRUS-2

9:15  Lester Khoo, Frank Austin, Sylvie Quiniou, Patricia Gaunt, Dennis Riecke, Alicia Jacobs, Keith Meals, Arthur Dunn, Matt Griffin
*Lactococcus garveiae* OR *Lactococcus latis*, DOES IT MATTER?

9:45  Christian J. Keller
ARAPAIMA SEDATION FOR TRANSPORT: ORALLY ADMINISTERED KETAMINE IN A RIVER GIANT

10:00 BREAK

Meeting the Requirements of the National Veterinary Accreditation Program – Moderator: A.D. Scarfe

10:30  Todd J. Duenckel
THE NATIONAL VETERINARY ACCREDITATION PROGRAM – INITIAL TRAINING AND CONTINUING EDUCATION REQUIREMENTS

11:00  Janet Whaley, Kathleen Hartman, Christa Speekmann
MEETING THE REQUIREMENTS OF THE NATIONAL VETERINARY ACCREDITATION PROGRAM – AQUATIC ANIMAL HEALTH CONTINUING EDUCATION TRAINING

12:30 LUNCH

Aquatic Veterinary Education, Epidemiology & Biosecurity – Moderator: P. Gaunt

1:30  A. David Scarfe
IMPLEMENTING AQUATIC VETERINARY EDUCATION AND CLINICAL COMPETENCY/CERTIFICATION PROGRAMS

2:00  Jennifer Matysczak
THE OIE’S WORK ON ANTIMICROBIAL RESISTANCE IN AQUATIC ANIMALS

2:30  Julie Bebak, Bruce Wagner, Brian Burnes, Terry Hanson
FARM-LEVEL RISK FACTORS FOR *Aeromonas hydrophila* EPIDEMICS
2:45  Thom Demas, Christian J. Keller
QUARANTINE, TREATMENT AND HUSBANDRY AT THE TENNESSEE AQUARIUM

3:00  BREAK

Aquatic Veterinary Epidemiology/Biosecurity – Moderator: L. Khoo
3:30  A. David Scarfe, Christopher I. Walster, Dusan Palic
PRACTICAL APPROACHES FOR DEVELOPING AND IMPLEMENTING VETERINARY
BIOSECURITY TO MEET NATIONAL AND INTERNATIONAL REQUIREMENTS

4:00  Julie Bebak
CHALLENGES TO THE IMPLEMENTATION OF BIOSECURITY IN THE ALABAMA
CATFISH INDUSTRY

4:15  Grace Karreman, Jim Brackett
DISEASE MANAGEMENT IN RECIRCULATION AQUACULTURE SYSTEMS: LESSONS
FROM AGRICULTURE

CHALLENGES OF INLAND AQUACULTURE IN TEMPERATE REGIONS – CASE STUDIES
Monday, February 25  8:30 - 3:00  Room 211
Chair: Jim Tidwell

8:30  James H. Tidwell
A REVIEW OF CHALLENGES OF INLAND AQUACULTURE IN TEMPERATE REGIONS
OF THE U.S.

9:00  Forrest Wynne
CHALLENGES IN GROWING AND MARKETING FOOD-SIZE CATFISH IN STATES
WHERE PRODUCTION IS LIMITED

9:30  Shawn Coyle, James Tidwell, Leigh Anne Bright
LARGEMOUTH BASS PRODUCTION

10:00 BREAK

10:30  Louis R. D’Abramo
INLAND AQUACULTURE OF THE FRESHWATER PRAWN – AN INDUSTRY POISED
FOR SUCCESS

11:00  Laura Tiu
YELLOW PERCH Perca flavescens INDUSTRY IN THE UNITED STATES

11:30  Jesse T. Trushenski, Paul Hitchens, Christopher Kohler, Marc Turano
HYBRID STRIPED BASS – A FISH FOR ALL REGIONS?

12:00  Joseph Morris, D. Allen Pattillo
CHALLENGES OF CULTURING BLUEGILL Lepomis macrochirus AND ITS HYBRIDS
IN TEMPERATE CLIMATES

12:30 LUNCH

1:30  Robert M. Durborow, Kenneth J. Semmens
SMALLER SCALE TROUT PRODUCTION IN STATES OTHER THAN IDAHO
2:00  Christopher Weeks, Nicholas Phelps, Ronald Johnson
ARE REGULATIONS THE BIGGEST OBSTACLE TO A GROWING AQUACULTURE
INDUSTRY IN THE NORTH CENTRAL REGION U.S.?

2:30  Kenneth J. Semmens
DEVELOPMENT OF A REGULATORY FRAMEWORK FOR AQUACULTURE IN WEST
VIRGINIA

ECONOMICS AND MARKETING – CONTINUED
Monday, February 25  8:30 - 5:00  Room 109
Chair: Frank Asche
Sponsor: International Association of Aquaculture Economics and Management

Moderator: Diego Valderrama

8:30  Jay Abolofia, Frank Asche, Atle Guttormsen, James Wilen
PUTTING A PRICE ON LICE: QUANTIFYING THE BIOLOGICAL AND ECONOMIC
IMPACTS OF SEA LICE ON FARMED SALMONIDS

8:45  Ignacio Llorente, Ladislao Luna-Sotorrío, José M. Fernández-Polanco,
José L. Fernández-Sanchez
INFLUENCE OF THE ENVIRONMENTAL CONDITIONS IN SEABREAM Sparus aurata
AQUACULTURE IN THE MEDITERRANEAN AREA

9:00  Daniel Deisenroth, Michael Verdone, Craig Bond
THE SPILLOVER BENEFITS AND ECONOMIC CONTRIBUTION OF THE ALASKA
SALMON ENHANCEMENT PROGRAM

9:15  Henry W. Kinnucan, Jinghua Xie, Øystein Myrland
OPTIMAL SEASONAL HERRING HARVEST

9:30  Kamal Gosh, A. K. M. Nowsad Alam
LIVELIHOODS AND SHRIMP FARMING SYSTEMS OF TWO SHRIMP FARMING
COMMUNITIES OF CHAKARIA MANGROVE FOREST OF BANGLADESH

9:45  Eivind Braekkan
THE RELATIVE CONTRIBUTION OF SUPPLY AND DEMAND SHIFTS ON PRICE
FORMATION: AN APPLICATION TO THE WORLD SALMON MARKET

10:00  BREAK

Moderator: Henry Kinnucan

10:45  Philip Munyua, Kwamena Quagrainie, Paul Preckel, Gerald Shively
TECHNICAL EFFICIENCY OF AQUACULTURE PRODUCTION IN KENYA: DATA
ENVELOPMENT ANALYSIS, ANOVA, OLS AND TOBIT MODELS IN SECOND STAGE
ANALYSIS

11:00  Hilde Ness Sandvold, Ragnar Tveteras
HISTORICAL DEVELOPMENT AND PRODUCTIVITY GROWTH IN SMOLT
PRODUCTION IN NORwegian SALMON FARMING

11:15  Olabisi Awoniyi, Siyanbola Omitoyin, Ruben O. Adeniyi
TECHNICAL EFFICIENCY AND PROFITABILITY OF FISH PRODUCTION IN EARTHEN
PONDS IN OSUN STATE, NIGERIA
11:30 Philip Munyua, Kwamena Quagrainie, Paul Preckel, Gerald Shively
TECHNICAL EFFICIENCY OF AQUACULTURE PRODUCTION IN KENYA:
AN APPLICATION OF STOCHASTIC FRONTIER ANALYSIS

11:45 Kristin H. Roll, Ragnar Tveteras
PRODUCT INNOVATION, PROCESS INNOVATION AND INCREASED PRODUCTION:
THE CASE OF AQUACULTURE

12:00 Terry Hanson, Andre Braga Vita Magalhaes, Timothy C. Morris, Bob Advent,
Tzachi M. Samocha
ECONOMIC ANALYSIS OF TWO FEEDS IN BIOFLOC DOMINATED SUPER-
INTENSIVE SHRIMP PRODUCTION SYSTEMS FOR THE PACIFIC WHITE SHRIMP,
2012

12:15 Ganesh Kumar, Carole Engle
OPTIMAL FEEDING STRATEGIES FOR CATFISH PRODUCTION-A MIXED INTEGER
MULTI-YEAR PROGRAMMING MODEL

12:30 LUNCH

Moderator: Gunnar Knapp
1:30 Justin Grimm-Greenblatt, Robert Pomeroy, Boris Bravo-Ureta, Tessa Getchis,
Le Xuan Sinh, Huynh Van Hien
ECONOMIC ANALYSIS OF ALTERNATIVE SNAKEHEAD Channa striata FEED

1:45 Tony Vaught, Fred S. Conte
EVALUATION OF EXISTING AQUACULTURE FACILITIES

2:00 Diego Valderrama
SOCIAL AND ECONOMIC DIMENSIONS OF SEAWEED FARMING:
A GLOBAL REVIEW

2:15 Gunnar Knapp, Alan Cook
ECONOMIC AND SPATIAL IMPACTS OF UNITED STATES SALMON FARMING

2:30 Siyanbola Omitoyin, Ruben O. Adeniyi, Olabosi Alaba Awoniyi, Ademola Adedokun
STRENGTHENING THE KEY PLAYERS IN THE TABLE SIZE FISH PRODUCTION OF
AQUACULTURE VALUE CHAIN FOR FOOD SECURITY IN OSUN STATE, NIGERIA

2:45 Richard Bryant, Siddhartha Dasgupta
MARKETING OF SMALL SCALE AQUACULTURE PRODUCTS IN KENTUCKY

3:00 BREAK

Moderator: Kwamena Quagrainie
3:30 Gifty Anane-Taabeah, Kwamena Quagrainie, Jennifer Dennis, Steve Amisah
ASSESSMENT OF TILAPIA VALUE CHAIN IN GHANA

3:45 Katharine Wellman, William Schenken
ECONOMIC IMPACTS OF WEST COAST SHELLFISH AQUACULTURE PRODUCTION

4:00 Megan Broughton, Kwamena Quagrainie
ECONOMIC IMPACT ANALYSIS OF THE AQUACULTURE INDUSTRY IN THE STATE
OF INDIANA
DENTRIFICATION AND OTHER WAYS TO MANAGE NITRATE

Monday, February 25  1:30 - 3:00  Room 206
Chairs: Tim Hovanec, Douglas Drennan

1:30  Timothy A. Hovanec
BIODEGRADABLE POLYMERS FOR REMOVING NITRATE AND PHOSPHATE: THEORY AND OPERATION

1:45  Phillip Lee
AQUACULTURE DENITRIFICATION: DANGEROUSLY ESSENTIAL OR ESSENTIALLY DANGEROUS

2:00  James T. Michaels, Neil Ashton, Constance Beaulaton, William Graham, Melvin Kestner, Kevan Main
PERFORMANCE OBSERVATIONS OF DENITRIFICATION REACTORS UTILIZING FOUR SEPARATE CARBON SOURCES IN A COMMERCIAL-SCALE AQUACULTURE APPLICATION

2:15  Maria Teresa Gutierrez-Wing, Ronald Malone, Kelly Rusch
FACTORS AFFECTING POLYHYDROXYBUTYRATE-BASED DENITRIFICATION IN RECIRCULATING AQUACULTURE

2:30  Michael Nystrom, Nathan Brennan, Kellie Dixon, Ari Nissanka, Kevan Main
EVALUATING THE EFFICIENCY OF ALTERNATIVE DENITRIFICATION STRATEGIES ON A RECIRCULATING BRACKISHWATER (15 PPT) PRODUCTION SYSTEM

2:45  Douglas Drennan, James M. Ebeling, Erik Kopache, Todd C. Guerdat
SOLID PHASE DENITRIFICATION FOR MARINE AND FRESHWATER RECIRCULATING AQUACULTURE SYSTEMS

3:00  Robert Kroger, Thad Scott
DENITRIFICATION POTENTIAL OF DRAINAGE DITCHES: AN UNDERUTILIZED MITIGATION STRATEGY AQUACULTURE EFFLUENT

LARVAL FINFISH

Monday, February 25  10:30 - 3:15  Room 202
Chair: Mike Schwarz, Reginald Blaylock

Moderator: Michael Schwarz

10:30  Agnes Bardon-Albaret, Eric Saillant
INVESTIGATIONS ON EGG AND LARVAE QUALITY OF RED SNAPPER Lutjanus campechanus

10:45  Agnes Bardon-Albaret, Eric Leclercq, Nancy J. Brown-Peterson, Angelos Apeitos, Eric Saillant
ONTOGENY OF THE DIGESTIVE SYSTEM OF THE RED SNAPPER Lutjanus campechanus

11:00  Eric Saillant, Camilo Pohlenz, Eric Leclercq, Agnes Bardon-Albaret, Angelos Apeitos, Brie Sarkisian, Jason Lemus, Alejandro Buentello, Delbert Gatlin
INVESTIGATIONS ON LARVAL NUTRITION OF THE RED SNAPPER Lutjanus campechanus
11:15 Christopher Manley, Phillip G. Lee, Chet F. Rakocinski, Reginald B. Blaylock
THE EFFECT OF STOCKING DENSITY ON AGGRESSIVE AND CANNIBALISTIC BEHAVIORS IN LARVAL HATCHERY-REARED SPOTTED SEATROUT *Cynoscion nebulosus*

11:30 Kevin Stuart, Federico Rotman, Mark Drawbridge
LARVAL REARING ADVANCEMENTS FOR YELLOWTAIL AMBERJACK *Seriola lalandi* IN SOUTHERN CALIFORNIA

11:45 Matthew E. McEntire, Marty Riche, Steven D. Rawles
EVALUATION OF LARVAL HYBRID STRIPED BASS *Morone chrysops* × *M. saxatilis* GROWTH UNDER THREE DIFFERENT DIETARY FEEDING REGIMES IN TWO RECIRCULATING TANK SYSTEMS: GREENWATER VS. CLEARWATER

12:00 Daryl Weldon, David Heikes, Nathan Stone, Jinyan Sun
EARLY REARING OF SUNSHINE BASS FRY IN A MOBILE FISH NURSERY SYSTEM PRIOR TO POND CULTURE

12:15 Frederick Goetz, Matt Cook, Tom Wade, Ken Massee, Doug Immerman, Andy Jasonowicz, Jon Lee, José Reyes-Tomassini
STATUS OF EARLY LIFE REARING FOR SABLEFISH: EFFECTS OF TANK DESIGN AT THE LARVAL STAGE

12:30 LUNCH

**Moderator: Reginald Blaylock**

1:30 Wade O. Watanabe, Christopher F. Dumas, Patrick M. Carroll
ESTABLISHING A PILOT HATCHERY FOR PRODUCTION OF JUVENILES TO SUPPORT FINFISH MARICULTURE GROWOUT INDUSTRY DEVELOPMENT IN NORTH CAROLINA

1:45 Christianah Olaniyi, Jumoke Etuk
COMPARATIVE STUDIES ON THE PERFORMANCE AND SURVIVAL RATE OF FISH LARVA FED Artemia and cultured freshwater live food zooplanktons

2:00 Brie Sarkisian, Ellen Flaherty, Phillip Lee
EVALUATION OF FECUNDITY FOR CAPTIVE *Acartia tonsa* BROODSTOCK USED FOR FEEDING MARINE FISH LARVAE

2:15 Brie Sarkisian, Jason Lemus, Phillip Lee
DESCRIPTION OF A LARGE-SCALE, INDOOR, BIOSECURE, BATCH CULTURE PRODUCTION SYSTEM FOR THE CALANOID COPEPOD *Acartia tonsa* USED FOR FEEDING MARINE FISH LARVAE

2:30 Brie Sarkisian, Phillip Lee
OPERATION OF A LARGE-SCALE, INDOOR, BIOSECURE, BATCH CULTURE PRODUCTION SYSTEM FOR THE CALANOID COPEPOD *Acartia tonsa* USED FOR FEEDING MARINE FISH LARVAE

2:45 Lisa F. Chandler, Ronald B. Johnson, Kenneth A. Webb Jr., Michael B. Rust
DYSPROSIIUM OXIDE ENRICHED ROTIFERS DEPLETE DIFFERENTIALLY IN GREEN AND CLEAR WATER: IMPLICATIONS FOR LARVAL CONSUMPTION STUDIES

3:00 Theodore Brown, Erik Kopache, James M. Ebeling, Kelly Rusch, Douglas G. Drennan II
UPDATED STATUS OF THE DEVELOPMENT OF A COMMERCIAL CONTINUOUS CULTURE SYSTEM FOR PRODUCTION OF *Brachionus rotundiformis* (S-TYPE) ROTIFERS
GENERAL SHELLFISH CONTRIBUTED
Monday, February 25     1:30 - 5:00     Room 208
Chair: Anne Rolton

1:30  **Anne Rolton**, Julien Vignier, Philippe Soudant, Aswani Volety, Sandra Shumway, Ludovic Donaghy
EFFECTS OF *Karenia brevis* EXPOSURE ON THE PHYSIOLOGY AND REPRODUCTIVE PERFORMANCE OF *Crassostrea virginica* AND THE QUALITY OF GAMETES THAT ARE PRODUCED

1:45  **Leila Basti**, Makoto Endo, Susumu Segawa
SEQUENCING OF ORGAN DAMAGE IN THE MEDITERRANEAN MUSSEL *Mytilus galloprovincialis* FOLLOWING EXPOSURE TO THE HARMFUL ALGA *Heterocapsa circularisquama*

2:00  **Christophe Lambert**, Aurélie Lelong, Aurélie Chambouvet, Nelly Le Goîc, Philippe Soudant, Hélène Hégaret
NON-PSTs PRODUCING *Alexandrium minutum* HAVE DELETERIOUS EFFECTS ON *Crassostrea gigas* HEMOCYTES OR SPERMATOZOA IN VITRO AND ALLELOPATHIC EFFECTS ON *Chaetoceros neogracile*

MICRO-PLASTICS: AN EMERGING THREAT FOR CULTIVATED BIVALVES?

2:30  **Mehmet Ates**, Zikri Arslan, James Daniels
DISTRIBUTION OF DIFFERENT ALPHA AND GAMMA ALUMINUM OXIDE NANOPARTICLES TO BRINE SHIRIMP *Artemia salina* LARVAE AND THEIR POTENTIAL TOXICITY

2:45  **Laura Heflin**, Stephen Watts, Addison Lawrence
EFFECT OF STOCKING DENSITY ON GROWTH AND MORPHOLOGY IN JUVENILE *Lytechinus variegatus*

3:00  **BREAK**

3:30  **Amal R. Khafage**, Fatma M. Bawab, Sohair S. El-Sherif
COMPARATIVE STUDY OF THE THELYCUM STRUCTURE OF SEVEN PENAEID SPECIES FROM CATCHES OF ALEXANDRIA, EGYPT TO CORRELATE THE STRUCTURE WITH THE FUNCTION

3:45  **Clyde MacKenzie**, Mitchell Tarnowski
LARGE SHIFTS IN COMMERCIAL LANDINGS OF BAY AND COASTAL MOLLUSKS, CRUSTACEANS AND FINFISH IN THE EASTERN UNITED STATES AND CANADA
EXTENSION/TECHNOLOGY TRANSFER
Monday, February 25  1:30 - 5:00  Room 204
Chair: Aloyce R. Kaliba

1:30  Jimmy L. Avery
STATUS OF THE 2010 TRADE ADJUSTMENT ASSISTANCE FOR CATFISH FARMERS PROGRAM

1:45  Tessa Getchis, Deborah Bouchard, Joseph Buttner, Chris Bartlett, John Ewart, Ann Faulds, George E. Flimlin, Doris Hicks, Craig Hollingsworth, Andrew Lazur, Dale Leavitt, Dennis McIntosh, Dana Morse, Tom Rippen, Gregg Rivara, Roxanna Smolowitz, Daniel Terlizzi, Don Webster, Michael Chambers, Diane C. Murphy, Robert Pomeroy, Josh Reitsma, Michael A. Rice and Nataliya Plesha
AQUACULTURE PRODUCTION HAZARDS – DEVELOPING OUTREACH SERVICES TO THE REGION’S FARMERS VIA EXTENSION AND AQUATIC ANIMAL PROFESSIONALS USING A HACCP APPROACH

2:00  Laura Hoberecht, William Dewey, Laurel Jennings
IMPLEMENTING THE NOAA NATIONAL AQUACULTURE POLICY IN WASHINGTON STATE: THE WASHINGTON SHELLFISH INITIATIVE

2:15  Yaw Ansah, Emmanuel Frimpong, Regassa Namara
CHARACTERISTICS OF ADOPTERS OF ENVIRONMENTAL BEST MANAGEMENT PRACTICES IN SMALL-SCALE POND AQUACULTURE

2:30  Steven Weschler, Alan Roache, Donald Webster, Stephan Abel, Donald W. Meritt
A REMOTE SETTING TRAINING PROGRAM FOR MARYLAND; MAKING PUBLIC/PRIVATE PARTNERSHIPS WORK TO STIMULATE OYSTER AQUACULTURE

2:45  Myron Roth
CURRENT STATUS OF CLOSED-CONTAINMENT AQUACULTURE IN BRITISH COLUMBIA, CANADA

3:00  Aloyce R. Kaliba
USING TWEETS TO IDENTIFY MESSAGES FOR EXTENSION AND GENERIC ADVERTISING IN THE SEAFOOD INDUSTRY

SOCIO-ECONOMIC CONSIDERATIONS IN RURAL AND SMALL SCALE AQUACULTURE CONTRIBUTED
Monday, February 25  1:30 - 5:00  Room 102
Chair: Akuffo Amankwah

1:30  Akuffo Amankwah, Kwamena Quagrainie
ADOPTION OF AQUACULTURE BEST MANAGEMENT PRACTICES IN KENYA

1:45  Sammy K. Macaria, Kwamena Quagrainie
SMALL AQUACULTURE OPERATIONS IN KENYA AND ADOPTION OF AQUACULTURE BEST MANAGEMENT PRACTICES

2:00  Olanrewaju Badmus, Ayodeji F. Abdulfatai, Yacim S. Emmanuel, Lawrence A. Laniyi
SMALL SCALE AQUACULTURE: A PANACEA TO POVERTY ALLEVIATION AND FOOD SECURITY IN ALIMOSHO AREA, LAGOS STATE, NIGERIA
2:15 Wanwa Ruben Adeniyi, Siyanbola Omitoyin, Olabisi Awoniyi, Tope Ekemode
VULNERABILITY REDUCTION AND RISK MANAGEMENT OF CLIMATE CHANGE
IMPART AMONG THE FISHERFOLKS IN COASTAL COMMUNITIES OF LAGOS
STATE, NIGERIA

2:30 Funmilola Agbebi, Joyce B. Akin-Obasola
FISH FARMING SYSTEMS IN NIGERIA: INCREASING RESILIENCE AND REDUCING
VULNERABILITY

2:45 Akuffo Amankwah, Kwamena Quagrainie
IMPACT OF AQUACULTURE BEST MANAGEMENT PRACTICES ADOPTION ON
TECHNICAL EFFICIENCY OF KENYAN FISH FARMS: A STOCHASTIC FRONTIER
ANALYSIS

3:00 BREAK

3:30 Oluwadare Ojo, Lawrence Oparinde, Oyedapo Fagbenro
EFFICIENT AQUACULTURE PRODUCTION: A PANACEA FOR ALLEVIATION OF
YOUTH UNEMPLOYMENT AND NUTRITIONAL POVERTY IN NIGERIA

3:45 Siyanbola Omitoyin, Jumoke Adebayo
URBAN AND PERI-URBAN AQUACULTURE AS A MEANS OF ENHANCING
LIVELIHOOD AMONG THE PRODUCTIVE AGE GROUP IN LAGOS STATE, NIGERIA

4:00 Allen Brandt, Christopher Hartleb, Keith Rice, Douglas Miskowiak
GIS-BASED ANALYSIS OF AQUACULTURE VENTURES IN WISCONSIN:
AN EVALUATIVE AND PREDICTIVE APPROACH TO AQUACULTURE FACILITY
LOCATIONS

4:15 M. L. Adeleke, F. O. Agbebi, I. Ajibefun, O. A. Fagbenro
ASSESSMENT OF SOCIOECONOMIC CHARACTERISTICS OF AFRICAN CATFISH
Clarias gariepinus SELLERS IN ONDO STATE, NIGERIA

4:30 Khalid Salie, Neelia Du Buisson, Bernard Snyman
IMPACT OF SMALL-SCALE RAINBOW TROUT Oncorhynchus mykiss CAGE
CULTURE ON WATER QUALITY OF IRRIGATION RESERVOIRS IN SOUTH AFRICA

HATCHERIES AND MANAGEMENT OF
AQUATIC RESOURCES (HAMAR)
Monday, February 25 1:30 - 5:00 Room 104
Chairs: Jesse Trushenski, Don MacKinlay

1:30 Lee Blankenship
THE HATCHERY SCIENTIFIC REVIEW GROUP (HSRG) PROCESS IN THE PACIFIC
NORTHWEST

1:45 Tom Flagg
RESULTS OF THE HATCHERY SCIENTIFIC REVIEW GROUP’S (HSRG) COLUMBIA
RIVER BASIN REVIEW

2:00 Peter Paquet
HATCHERY REFORM AS PART OF THE NORTHWEST POWER AND CONSERVATION
COUNCIL’S FISH AND WILDLIFE PROGRAM
2:15  Paul Kline
IMPLEMENTATION OF HATCHERY REFORM IN THE STATE OF IDAHO

2:30  Mike Denson
20 YEARS OF ADAPTIVE MANAGEMENT: SOUTH CAROLINA’S STOCK ENHANCEMENT PROGRAMS

2:45  Pat Rakes
THIRTY YEARS OF CULTURING THREATENED AND ENDANGERED FISH SPECIES IN TENNESSEE

3:00  BREAK

3:15  Mark Cantrell
CONSERVATION EFFORTS FOR THE RARE SICKLEFIN REDHORSE – A CULTURALLY IMPORTANT NATIVE FISH TO THE EASTERN BAND OF THE CHEROKEE NATION

3:30  Chris Darnall
ASSESSING DISEASE IN ENHANCEMENT AND RESTORATION FISH

3:45  Thomas Waltzek
EMERGING INFECTIOUS DISEASES OF HATCHERY REARED STURGEON

4:00  Jason Henegar, Kathlina Alford, Mark Cantrell, Carlos Echevarria, Anna George
DEVELOPMENT OF THE TENNESSEE RIVER LAKE STURGEON Acipenser fulvescens MANAGEMENT PLAN AND WORKING GROUP

GENERAL AQUACULTURE CONTRIBUTED
Monday, February 25   1:30 - 5:00   Room 207
Chair: Joyce J. Evans

1:30  Joyce Evans, Olga Haenen, Frank Berthe
OVERVIEW OF ZOONOTIC INFECTIONS FROM FISH AND SHELLFISH

1:45  Craig Adams, Honglan Shi, Zhimin Qiang
EFFECTIVE CHLORINE AND OZONE TREATMENT OF SALT WATER AND SEAWATER AQUARIA: DISINFECTION BYPRODUCT AND SECONDARY OXIDANT FORMATION AND CONTROL

2:00  Rajeshkumar Sivakumar, Natesan Munuswamy
BIOMARKERS OF METALS TOXICITY IN WATER, SEDIMENTS AND Chanos chanos FROM KAATTUPPALLI ISLAND, CHENNAI SOUTH EAST COAST OF INDIA

2:15  Salma Sultana, Hafiz Muammad Ashraf, Farhat Jabeen, Tayyaba Sultana
FISH SCALES: AN ASSESSMENT TOOL FOR THE EVALUATION OF THE EFFECT OF POLLUTION THROUGH NON-INVASIVE METHOD IN Cyprinus carpio FROM THE RIVER INDUS

ISOLATION AND CHARACTERIZATION OF COLLAGEN FROM SKIN, SCALES AND FINS OF Cyprinus carpio AND Hypophthylmicthys molitrix
2:45 Hakeem Fashina-Bombata, Mutalib Ayofe Hammed, Aminat Oriyomi Falola
GROWTH PATTERN OF FARM BRED UNSEXED AND HORMONE TREATED WESAFU,
AN UNIDENTIFIED ENDEMIC CICHLID OF EPE LAGOON, LAGOS STATE NIGERIA

3:00 BREAK

3:30 Hakeem Fashina-Bombata, P Jayasankar, Iwalewa Megbowon, Mutalib Hammed
AQUACULTURE POTENTIALS AND GENETICS OF “WESAFU”: AN ENDEMIC
CICHLID OF EPE LAGOON, LAGOS NIGERIA

3:45 Ghanshyam Nath Jha, Debajit Sarma, T. A. Qureshi, Trapti Jha
EFFECT OF BEETROOT Beta vulgaris AND APPLE Pyrus malus PEEL FORTIFIED
DIETS ON GROWTH, BODY COMPOSITION AND TOTAL CAROTENOID CONTENT OF
Barilius bendelisis

4:00 Carlos León
INTEGRATED SYSTEMS OF AQUACULTURE, AGRICULTURE AND OTHER
LIVESTOCK FOR INCREASING AN EFFICIENT RURAL DEVELOPMENT