



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
- 11:15 L. Curry Woods III**, K. M. Dorsey, J. Mohler, H. D. Guthrie, G. R. Welch
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:  Altech®

- 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 alvarezii* (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 DERMAL 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 DREISSENEAD ADULTS AND VELIGERS
- 12:00 David Wong**, Mike Misamore, Jackson Gross
CULTURE AND GROWTH OF LABORATORY SPAWNED 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 Voley
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

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 AQUAFEDS

- 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 *Pseudoloma neurophilia* IN THE ZEBRAFISH *Danio rerio*
- 5:00 Colleen E. Paquette**, Michael L. Kent, Cari Buchner, Robert L. Tanguay, Karen Guillemain, 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
PRIORITIZING 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 Prah, 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

- 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**, João D. Lencart-Silva, João P. Nunes, Camille Saurel, Filipa Vazquez, Øivind 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 Courtney 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 Courtney Janiak**, Dennis McIntosh
EFFECT OF STOCKING AGE AND SALINITY ON GROWTH AND SURVIVAL OF EARLY
LIFE-STAGE MUMMICHOG *Fundulus heteroclitus*

- 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 Gartner, 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 ADMINSTRATING 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 Wachter, Judy Meksraitis, Effa Beauette
PRESERVE 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 STEMM (SCIENCE, TECHNOLOGY, ENGINEERING, MATHEMATICS AND MEDICINE) EDUCATION IN PHOENIX, ARIZONA
- 4:30 Matthew Ferrell**, Kenneth Semmens
MODEST AQUAPONIC SYSTEM FOR PERSONAL OR EDUCATIONAL USE

FINFISH HEALTH & DISEASE

Friday, February 22 11:00 - 5:30 Room 208

Chairs: Lester Khoo, Pat Gaunt

Sponsors: AVMA, WAVMA



FRIDAY

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 AUSTRALIAN 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

- 3:15 Kevin J. Neves**, Nick P. Brown
EXPOSURE TO ELEVATED LEVELS OF DISSOLVED CARBON DIOXIDE RESULTS IN CATARACT FORMATION IN JUVENILE ATLANTIC COD *Gadus morhua*
- 3:30 Michael Engelbrecht Nielsen**, Natalia Ivonne Vera Jiménez, Dominika Alicia Przybylska, Jacob Günther Schmidt, Cecilie Hasselbalch Volke Hougaard, Tune Wulff
MODULATION OF THE TISSUE REGENERATIVE PROCESS IN FISH BY β -GLUCANS

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-Taylor's 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

LIPIDS IN AQUACULTURE NUTRITION AND PHYSIOLOGY

Friday, February 22 1:30 - 3:30 Room 102

Chairs: Rebecca Lochman, Jesse Trushenski

Sponsor:  Altech®

FRIDAY

- 12:00 Biswamitra 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
ONTOGENY 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 chinensis*
- 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

- 4:00 Dean Jerry**, Hoc Tan Dao, David B. Jones, Kyall R. Zenger
DNA POOLING IN ASSOCIATION WITH HIGH-DENSITY SNP ARRAYS AS A STRATEGY TO IMPUTE MISSING BROODSTOCK GENOTYPES
- 4:15 Gael Leclercq**, Emmerik Motte, Benoit Diringier, Virna Cedeno, Xavier Serrano, John Montano, Carlos Mello, Eric Mialhe
SHRIMP DISEASE PREVENTION AND GENETIC SELECTION PROGRAMS FOR RESISTANCE AGAINST PATHOGENS IN SOUTH AMERICA: STRATEGY, RESULTS AND PERSPECTIVES

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

- 3:45 Rafael Cuevas-Uribe**, Steven D. Mims
REUSE TECHNOLOGY OPPORTUNITIES FOR AQUACULTURE AT
DECOMMISSIONED WASTEWATER TREATMENT FACILITIES FOR PADDLEFISH
FINGERLING CULTURE
- 4:00 Tim Parrott**, Steven D. Mims
A NOVEL BUSINESS MODEL USING DECOMMISSIONED WASTEWATER
TREATMENTS TANKS FOR PADDLEFISH FINGERLING CULTURE AND MUNICIPAL
RESERVOIRS FOR GROWOUT
- 4:15 Renee Koerner**
SHORT CHAIN MARKETING OF PADDLEFISH MEAT AND CAVIAR
- 4:30 Siddhartha Dasgupta**, William Rimmele
ECONOMIC ANALYSIS OF A PADDLEFISH HATCHERY IN KENTUCKY
- 4:45 Steven D. Mims**
ROUNDTABLE DISCUSSION WITH CAVIAR AND SMOKED FISH SAMPLING

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 \times 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

FRIDAY

- 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

FRIDAY

FUNCTIONAL AQUAFEED INGREDIENTS – PREBIOTICS, PROBIOTICS, AND NUTRICEUTICALS

Friday, February 22 3:30 - 5:30 Room 102

Chair: Wendy Sealey

Sponsor:  Alltech®

FRIDAY

- 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 COMMERCIALY-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-Chiari
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

SATURDAY, February 23

SHRIMP NUTRITION – CONTINUED

Saturday, February 23 8:30 - 10:00 Room 205

Chairs: Alberto Nunes, Daniel Lemos

Sponsor: **NOVUS** 

SATURDAY

- 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
- 9:15 Cristina M. Richardson**, Anthony J. Siccardi III, Michael K. Dowd, Tom C. Wedegaertner, Keerti Rathore, Sreenath R. Palle, Rebecca Lund, Tzachi M. Samocha
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 Wandelaar, 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 AQUAFLO®-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 Wandelea, 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

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, Kathlyn 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

- 10:45 Kaety Hildenbrand**, Mark Farley, Rebecca Schiewe
SO YOU HAVE PEOPLE ON YOUR WORKING WATERFRONT; WHAT DO THEY
KNOW AND WHAT CAN YOU TEACH THEM?

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?
- 9:15 Delphine Lallias**, Pierre Boudry, Frederico Batista, Andy Beaumont, Jon King,
John Turner, Sylvie Lapègue
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**
- 10:30** **Joao G. Ferreira**, Daniel Cheney, Camille Saurel, William F. Dewey,
Andrew D. Suhrbier, Jonathan P. Davis, Suzanne B. Bricker
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

SATURDAY

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

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 Sclodnick, 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: (Ā'DĒ'ZĒ) 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, Angellie 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 IHNV FRAGMENTS INTO THE SHRIMP GENOME ASSOCIATED WITH METABOLIC DISTURBANCE IN INFECTIOUS AND NON-INFECTIOUS IHNV?
- 10:45 Vanvimon Saksmerprorne**, Kallaya Sritunyalucksana, Thitipon Thammasorn, Sarocha Jitrakorn, Nutcharee Songsakul, Chantra Saelim, Chompunut Kirdmusik, Theerapong Chutipongraksa, Timothy Flegel, Boonsirm Withyachumnarnkul
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**, Iliana 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 SUPPLEMENTATION 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
- 11:45 Md Shah Alam**, Wade O. Watanabe, Amanda R. Myers, Troy C. Rezek, Patrick M. Carroll
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 PROTIEIN 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, Agustin Carlos Cruz Castro, José Alejandro Medina Gandara
EFFECTS OF DIETS WITH TOTAL REPLACEMENT OF FISH MEAL 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, Manabu 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-OLIGOSACCHARIDE 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-OLIGOSACCHARIDE 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 Amezcuita, 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-3 α

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

- 3:00** **Tiago Hori**, Kurt Gamperl, Marije Booman, Gord Nash, Stewart Johnson, Luis Afonso, Matthew Rise
STRESS PHYSIOLOGY AND IMMUNE-RELEVANT GENE EXPRESSION OF ATLANTIC COD *Gadus morhua* SUBJECTED TO ELEVATED TEMPERATURES
- 3:15** **Sigurd O. Stefansson**, Henrik Sundh, Øivind Andersen, Kristina Sundell, Sigurd Handeland, Lars Ebbesson, Eva Andersson, Elisabeth Jönsson, Tom Nilsen
LOW SALINITY STRESS REDUCES GROWTH AND FOOD CONVERSION IN ATLANTIC COD *Gadus morhua*

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 β 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 Guillemain, 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 Whipps**
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 GENERTION 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**

TILAPIA

Saturday, February 23 8:30 - 3:30 Room 110

Chair: Kevin Fitzsimmons

Sponsor:  Altech®

8:30 INTRODUCTION

8:45 Emmanuel Ajani, 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
POLY CULTURE 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 DESING 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*

SATURDAY

- 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 Wasielecky**, 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, André 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
WILLAPA BAY OYSTERS: A DOCUMENTARY OF THE 160-YEAR-OLD WILLAPA BAY WASHINGTON, USA OYSTER INDUSTRY TOLD THROUGH THE EYES OF GROWERS

MOVIE: "FISH MEAT: CHOOSE YOUR FARM WISELY"

Saturday, February 23 1:30 - 3:00 Room 202

Chair: Sarah Curry

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.

SATURDAY

ACIDIFICATION

Saturday, February 23 1:30 - 3:30 Room 208

Chair: George Waldbuesser

- 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. Prah
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

FINFISH GENETICS

Saturday, February 23 1:30 - 3:30 Room 203

Chair: Eric Saillant

- 1:30 Eric Saillant**, Jessica Brown-Parker, Marine Guillard, Carly Somerset
INFERENCE ON PARENTAGE AND ESTIMATION OF THE EFFECTIVE NUMBER OF BREEDERS IN CAPTIVE BRED SPOTTED SEATROUT FOR STOCK ENHANCEMENT
- 1:45 Azhaguchamy Muthukumar**
INDUCTION OF GYNOGENESIS IN ASIAN CATFISH *Clarias batrachus* BY USING UV IRRADIATED HETEROLOGOUS 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 \times 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* \times *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 MICRORNAs 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

SATURDAY

ORNAMENTALS

Saturday, February 23 1:30 - 3:30 Room 207

Chair: Junda Lin

- 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*

SATURDAY

SUNDAY, February 24

SHELLFISH NUTRITION

Sunday, February 24 8:30 - 11:30 Room 102

Chair: Jay Christopher Taylor

- 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
- 11:15** **Mayra L. González-Félix**, Martin Perez-Velazquez, D. Allen Davis, Luke A. Roy
INFLUENCE OF THE AQUEOUS $Na^+ : K^+$ RATIO AND WATER TEMPERATURE ON GROWTH AND SURVIVAL OF *Litopenaeus vannamei* REARED IN LOW SALINITY WATER
- 11:30** **Dariano Krummenauer**, Aline Bezerra, Luis Poersch, Wilson Wasielesky Jr.
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

SUNDAY

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 Weisbergger
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

SUNDAY

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*
- 11:15 Kumar Katya**, Jun-ho Lee, Hyeonho Yun, Mizanur Rahman, Shahker Erfan, Seung-han Lee, Young-kwang Lee, Sungchul C. Bai
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 GRAYFISH *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 Hæggh, 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
- 9:15 Milton Saidu**, Ronald Malone, John Hargreaves
DESIGN AND SAFETY CRITERIA FOR COMMERCIAL AIRLIFTED POLYGEYSER
RAS FACILITY

SUNDAY

- 9:30 Daniel Alt**, Ronald Malone
MITIGATION OF SHOCK LOADING IN ORNAMENTAL FISH HATCHERIES
- 9:45 Steven Hall**, Roger Husser, Charles Malveaux, Sneha 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, Quenton 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: 

- 8:30 Mehdi Asemani**, Roshada Hashim
OPTIMUM ENERGY LEVEL FOR IRIDESCENT SHARK *Pangasianodon
hypophthalmus*
- 8:45 Mayra L. González-Félix**, Martin 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*

- 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 Slirirat Chatvijitkul**, C. Lim, D. Allen Davis
EVALUATION OF THE ACCEPTABILITY OF LIPID EXTRACTED 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 AGUA FEEDS
- 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 AQUA FEEDS 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 STRIPED 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 RECIRCULATING 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 PHYLOGENY 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

SUNDAY

- 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 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

PHYSIOLOGICAL INSIGHTS TOWARDS IMPROVING FISH CULTURE III – CONTINUED

Sunday, February 24 8:30 - 5:30 Room 204

Chairs: Brian Small, Matt Rise, Kurt Gamperl, L. Curry Woods III

Stress and Environmental Challenges – continued Moderator: Kurt Gamperl

8:30 Helgi Thorarensen, Albert Imsland, Snorri Gunnarsson, Arnþór Gústavsson
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 Janaína 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

SUNDAY

- 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* × ♂ *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 GERMLASM 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 GnRH α 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**

SUNDAY

- 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 MOLLUSCIDIC 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

SUNDAY

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 DISPERSANT 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 DISPERSANT 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 DISPERSANT 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 virginica* 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
MORPHOMETRIC 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

SUNDAY

- 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**, Malgorzata Korzeniowska, Karolina Kwasek, Michal Wojno
EFFECT OF SWIM BLADDER NON-INFLATION ON YELLOW PERCH PERFORMANCE – IS THERE A LATE INFLATION AFTER PNEUMATIC DUCT ATROPHY?
- 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 Schweitzer, 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

SUNDAY

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

ECONOMICS AND MARKETING

Sunday, February 24 1:30 - 5:30 Room 109

Chair: Frank Asche

Sponsor: International Association of Aquaculture Economics and Management

Modertor: 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 Tveterås
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

Moderator: Madan Dey

- 3:30 Madan Dey**, Kehar Singh, Prasanna Surathkal
SEASONAL AND SPATIAL VARIATION IN DEMAND FOR AND ELASTICITIES OF FISH PRODUCTS IN THE UNITED STATES: AN ANALYSIS OF MARKET-LEVEL SCANNER DATA
- 3:45 Jinghua Xie**
TESTING ADVERTISING-INDUCED ROTATION OF DEMAND CURVES IN EU SALMON MARKET
- 4:00 José Fernández-Polanco**, Julimar da Silva, Almudena Briones
RETAIL CONCENTRATION IN THE SPANISH SEAFOOD INDUSTRY
- 4:15 Dengjun Zhang**, Ragnar Tveterås, Kristin Lien
CHINA'S IMPACT ON GLOBAL SEAFOOD MARKET: A STRUCTURAL APPROACH
- 4:30 Oai Li Chen**, Madan Mohan Dey
CAN WEB-SEARCH QUERIES HELP IN PREDICTING THE PRESENT? AN APPLICATION ON UNBREADED FROZEN TILAPIA FILLETS IN THE U.S.
- 4:45 Frank Asche**, Atle Oglend, Dengjun Zhang
PRICE TRANSMISSION IN NEW SUPPLY CHAINS – THE CASE OF SALMON IN FRANCE
- 5:00 Samina Yasmin**, Madan M. Dey
ANALYSIS OF PRICE TRANSMISSION FOR FARM-RAISED CATFISH OF THE U.S.
- 5:15 Sigbjorn Tveteras**, Kristin Lien, Ragnar Tveteras
GLOBALIZATION OF SEAFOOD MARKETS – TESTING MARKET INTEGRATION USING DYNAMIC FACTOR ANALYSIS

STRIPED BASS GROWERS ASSOCIATION INDUSTRY FORUM

Sunday, February 24 1:30 - 5:30 Room 202

Moderator: Marc J. Turano

- 1:30 Marc Turano**
2012 US HYBRID STRIPED BASS INDUSTRY UPDATE
- 2:00 Mike Freeze**
UPDATES FROM THE NATIONAL AQUACULTURE ASSOCIATION
- 2:15 Kathleen Hartman**
DISEASE TESTING AND EXPORTS TO CANADA: WHAT NEEDS TO BE DONE NOW, AND WHAT THE FUTURE MAY HOLD FOR THE HSB INDUSTRY
- 2:30 Bart Green**, Adam Fuller, Steven Rawles, Benjamin Beck, and Matthew McEntire
DISSOLVED OXYGEN EFFECTS ON HYBRID STRIPED BASS GROWTH
- 2:45 Steven Rawles**
IDEAL PROTEIN OPTIMIZATION OF HYBRID STRIPED BASS DIETS
- 3:00 BREAK**

- 3:15 Adam Fuller, Craig Sullivan**
HYBRID STRIPED BASS NATIONAL BREEDING PROGRAM UPDATE
- 3:45 Carole Engle**
ECONOMIC TRADE-OFFS OF VARIOUS FEEDING REGIMES IN CATFISH PRODUCTION
- 4:15 Jesse Trushenski**
NUTRITION AND FEEDS RESEARCH AT SOUTHERN ILLINOIS UNIVERSITY CARBONDALE
- 4:45 STRIPED BASS GROWERS ASSOCIATION ANNUAL MEETING/SBGA BOD MEETING**

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**
METABOLOMICS 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

SUNDAY

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

SUNDAY

TRIDACNA

Sunday, February 24 3:30 - 5:30 Room 104

Chair: Miguel Mies

- 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
OCCURRENCE 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. Abroqueña
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

SUNDAY

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

MONDAY, February 25

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*

BIOFOULING

Monday, February 25 8:30 - 12:30 Room 102

Chair: Neeraj Gohad

- 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 BIOCIDES
- 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 Anya Dunham**, Robert D. Marshall
EFFECTS OF NOVEL GROWTH MEDIA AND STOCKING DENSITY ON BIOFOULING,
SHELL CHARACTERISTICS, AND GROWTH OF BIVALVES IN SUSPENDED
CULTURE

MONDAY

PHYSIOLOGICAL INSIGHTS TOWARDS IMPROVING FISH CULTURE III – CONTINUED

Monday, February 25 8:30 - 12:30 Room 204

Chairs: Brian Small, Matt Rise, Kurt Gamperl, L. Curry Woods III

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
XENOGENIC 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
- 12:15 Edward Trippel**, Ian A. E. Butts, Amanda Babin, Steven R. E. Neil, Nathaniel J. Feindel, Tillmann J. Benfey
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. Nandeesh)**

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

MONDAY

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* POLY CULTURE 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**, Joesph 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 Luttrell
SUSTAINABLE AQUAPONICS: A TOOL FOR EDUCATION, FOOD, AND RESEARCH

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. McPeck, 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 MORPHOTYPE 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 solidissima*
- 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

SEA LICE

Monday, February 25 8:30 - 12:30 Room 208

Chair: Myron Roth

Sponsors:



FishVet
Group



University
of Victoria



MERCK
Animal Health

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

MONDAY

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 EXTIRPATED 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

MONDAY

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

MACROBRACHIUM

Monday, February 25 8:30 - 3:15 Room 201

Chairs: Patrica Moraes Valenti, Michael New

8:30 Paul Sandifer, Louis D'Abramo, Spencer Malecha, James Tidwell
EARLY HISTORY AND PIONEERS OF FRESHWATER PRAWN AQUACULTURE

8:45 Michael Frinsko
DEVELOPMENT AND EVALUATION OF PRACTICAL LIVE HAULING AND POST-
HARVEST HOLDING STRATEGIES FOR FRESHWATER PRAWN *Macrobrachium*
rosenbergii IN THE U.S.

9:15 Helcio Luis de Almeida Marques, Helenice Pereira Barros, Marcello Villar Boock,
Margarete Mallasen
INTEGRATED FARMING OF FRESHWATER PRAWNS: A POSSIBLE STRATEGY FOR
INCREASING SUSTAINABILITY IN BRAZILIAN AQUACULTURE

9:45 Louis R. D'Abramo
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

10:00 BREAK

10:30 James H. Tidwell, Shawn D. Coyle, Leigh Anne Bright, Charles Shultz,
Zachary Kupchinsky, Craig Upstrom
PRODUCTION COMPARISON OF ALL-MALE AND MIXED-SEX FRESHWATER
PRAWNS *Macrobrachium rosenbergii* IN PONDS

11:00 Maria Lourdes Cuvin-Aralar, Ursan de la Paz, Emiliano Aralar
PERIPHYTON-BASED PRODUCTION OF THE GIANT FRESHWATER PRAWN
Macrobrachium rosenbergii CULTURED IN LAKE-BASED CAGES

- 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-García, 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 Junior
- 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

MONDAY

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

12:15 Danilo Pedro Streit Jr., Luis Fernando G. Gracia, Maira N. Corso, Raycon R. F. Garcia, Diego de Oliveira, Antônio S. V. Junior, Carine D. Corcini, Enefer R. Oberst
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* ♀ × *Aristrichthys 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 POLYCULTURE SYSTEMS

ADVANCING AQUATIC VETERINARY MEDICINE, FISH HEALTH & DISEASE

Monday, February 25 8:30 - 5:00 Room 103

Chair: David Scarfe

Sponsored by AVMA



Veterinary Aspects of Fish Health & Disease – Moderator: A.D. Scarfe

8:30 Eleanor 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

MONDAY

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

MONDAY

- 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 Tveterås
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 Quagraine, Paul Preckel, Gerald Shively
TECHNICAL EFFICIENCY OF AQUACULTURE PRODUCTION IN KENYA:
AN APPLICATION OF STOCHASTIC FRONTIER ANALYSIS
- 11:45 Kristin H. Roll**, Ragnar Tveteras
PRRODUCT 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 Quagraine

- 3:30 Gifty Anane-Taabeah**, Kwamena Quagraine, 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 Quagraine
ECONOMIC IMPACT ANALYSIS OF THE AQUACULTURE INDUSTRY IN THE STATE
OF INDIANA

DENITRIFICATION AND OTHER WAYS TO MANAGE NITRATE

Monday, February 25 1:30 - 3:00 Room 202

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

MONDAY

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 Masee, 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 FRESH WATER 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 FOR FEEDING MARINE FISH LARVAE
- 2:45 Lisa F. Chandler**, Ronald B. Johnson, Kenneth A. Webb Jr., Michael B. Rust
DYSPROSIUM 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 Voley, 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 Goïc, 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*
- 2:15 Philippe Soudant**, Christophe Lambert, Stéphane Pouvreau, Caroline Fabioux, René Robert, Hélène Hégaret, Charlotte Corporeau, Nelly Le Goïc, Pierre Boudry, Marc Long, Johan Robbens, Arnaud Huvet
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

MONDAY

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 Mc Intosh, 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 Quagraine**
ADOPTION OF AQUACULTURE BEST MANAGEMENT PRACTICES IN KENYA
- 1:45 Sammy K. Macaria, Kwamena Quagraine**
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

MONDAY

- 2:15 Wanwa Ruben Adeniyi**, Siyanbola Omitoyin, Olabisi Awoniyi, Tope Ekemode
VULNERABILITY REDUCTION AND RISK MANAGEMENT OF CLIMATE CHANGE IMPACT 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 ZONOTIC 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
- 2:30 Shahid Mahboob Rana, H. F. A. Al-Balawi, F. Al-Misned, Z. Ahmed, S. Haider, S. Sultana**
ISOLATION AND CHARACTERIZATION OF COLLAGEN FROM SKIN, SCALES AND FINS OF *Cyprinus carpio* AND *Hypophthalmichthys 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

