

# AQUACULTURE 2010 SESSION SCHEDULES

## TUESDAY, MARCH 2

### OPENING & PLENARY

Tuesday, March 2 8:30 - 10:00 Town & Country Room

**9:15 Peter Redmond**  
THE IMPORTANCE OF CERTIFICATION

### ECOLABELLING IN AQUACULTURE

Tuesday, March 2 11:00 - 3:00 Golden West Room  
Chair: Bruce Phillips

**11:00 Daniel Lee**  
AQUACULTURE CERTIFICATION: LESSONS FOR SUCCESS

**11:30 Michael Tlusty**  
IS THE PERFECT THE ENEMY OF THE GOOD? USING ZERO IMPACT AS A NEW PARADIGM TO ADVANCE SUSTAINABLE AQUACULTURE

**11:45 Sabine Daume**  
SUSTAINABLE SEAFOOD CERTIFICATION: DEVELOPING STANDARDS FOR THE ABALONE AQUACULTURE INDUSTRY, FROM A CERTIFIERS PERSPECTIVE

**12:00 LUNCH**

**1:30 Bruce Phillips, Trevor Ward**  
ECOLABELING: ISSUES AND SOLUTIONS?

**1:45 Steven Hedlund**  
THE IMPACT OF ECO-LABELING ON GLOBAL SEAFOOD ECONOMICS AND PROFITABILITY

### OLYMPIA OYSTER RESEARCH AND RESTORATION

Tuesday, March 2 11:00 - 3:00 Pacific Salon 7  
Chairs: Kay McGraw, N. Consentino-Manning

**11:00 Kay McGraw**  
RECENT ADVANCES IN RESEARCH AND RESTORATION OF THE OLYMPIA OYSTER *Ostrea lurida* (CARPENTER 1864): AN INTRODUCTION TO THE SESSION

**11:15 Maria Polson, William Hewson, Douglas Eernisse, Patrick Baker, Danielle Zacherl**  
YOU SAY CONCHAPHILA, I SAY LURIDA: MOLECULAR EVIDENCE FOR RESTRICTING THE OLYMPIA OYSTER *Ostrea lurida* (CARPENTER 1864) TO TEMPERATE WESTERN NORTH AMERICA

**11:30 Mark Camara, David Stick, Michael Banks, Chris Langdon**  
MICROSATELLITE DNA REVEALS SURPRISING LEVELS OF GENETIC STRUCTURE WITHIN AND AMONG REMNANT POPULATIONS OF THE OLYMPIA OYSTER *Ostrea conchaphila*

**11:45 Brian Allen, Jonathan Davis, Jordan Watson, Annemarie Ansley**  
COMMUNITY LEVEL EFFECTS MONITORING ON STOCK RESTORATION ENHANCEMENTS FOR *Ostrea lurida* ON A STRUCTURE LIMITED BEACH IN PUGET SOUND, WASHINGTON

**12:00 LUNCH**

**1:30 Danielle Zacherl**

WE'LL MAKE THEIR BED; WILL THEY LIE IN IT? PLANS FOR RESTORATION OF AN *Ostrea lurida* POPULATION IN NEWPORT BAY, CALIFORNIA

**1:45 Robert Abbott, Rena Obernolte, Brian Mulvey**

SAN FRANCISCO BAY OLYMPIA OYSTER RESTORATION METHODS AND ECOLOGICAL BENEFITS

**2:00 Brian Allen, Jonathan Davis**

ADAPTIVE DEVELOPMENT OF COMMUNITY AND POPULATION ASSESSMENT TOOLS FOR NATURAL AND ENHANCED BEDS OF *Ostrea lurida*

**2:15 Jonathan Davis, Brian Allen**

STRUCTURE AND CHARACTERIZATIONS FOR ROBUST POPULATIONS OF *Ostrea lurida* ON VANCOUVER ISLAND, B.C.'S WEST COAST

**2:30 Graham E. Gillespie, Sean E.M. MacConnachie, Tammy C. Norgard, Lily M. Stanton**

UPDATED STATUS OF THE OLYMPIA OYSTER *Ostrea lurida* (CARPENTER, 1864) IN BRITISH COLUMBIA, CANADA, AND MANAGEMENT RESPONSE TO ENSURE CONSERVATION

**SHELLFISH GENETICS AND GENOMICS**

Tuesday, March 2 11:00 - 3:00 Royal Palm Salon 1

Chairs: Kim Reece, Maureen Krause

**11:00 Mackenzie Gavery, Steven Roberts**

THE PACIFIC OYSTER AS A BIOINDICATOR OF ECOSYSTEM HEALTH

**11:15 Jan Cordes, Jens Carlsson, Mark Luckenbach, Sharon Furiness, Kimberly Reece**

GENETIC EVALUATION OF RECRUITMENT SUCCESS FOR DEPLOYED DOMESTICATED *Crassostrea virginica* OYSTERS ON A MAN-MADE REEF IN THE GREAT WICOMICO RIVER, VIRGINIA

**11:30 Alexandra Leitão, Joana Sousa, Sandra Joaquim, Domitília Matias**

NEGATIVE IMPACT OF SOMATIC ANEUPLOIDY IN BIVALVE'S GROWTH RATE: TWENTY YEARS OF CASE STUDIES

**11:45 Standish Allen Jr., Antonio Velez, Ximena Fuentes, Marcela Ureta, Katie Blackshear**

ASSESSMENT OF TRIPLOID CHILEAN SCALLOP *Argopecten purpuratus* AND ATTEMPTS TO DEVELOP TETRAPLOIDS

**12:00 LUNCH**

**1:30 Anu Frank-Lawale, Stan Allen**

GENETIC PARAMETERS AND ENVIRONMENTAL EFFECTS FOR PRODUCTION TRAITS IN *Crassostrea virginica* GROWN IN VIRGINIA

**1:45 Jessica Petersen, Melinda Baerwald, Ana Ibarra, Bernie May**

A GENETIC LINKAGE MAP OF THE PACIFIC LION-PAW SCALLOP – STEPS TOWARD MARKER ASSISTED SELECTION IN AQUACULTURE

**2:00 Paul Rawson, Jay Caponera, Cynthia Riginos**

INTRA- AND INTERSPECIFIC VARIATION AT A GENE ENCODING LEUCINE AMINOPEPTIDASE IN THE BLUE MUSSELS *Mytilus edulis* AND *Mytilus trossulus*

**2:15 Helen Gurney-Smith, Stewart Johnson**

THE Myt-OME PROJECT: DEVELOPING HEALTH ASSESSMENT TOOLS FOR MARINE MUSSELS

**2:30 Amandine Surier, Rick Karney, Ximing Guo, Yongping Wang, Emma Green-Beach**

CREATING A TETRAPLOID BROODSTOCK FOR THE BAY SCALLOP *Argopecten irradians*

## IMPROVING SHELLFISH AQUACULTURE PRODUCTION

Tuesday, March 2 11:00 - 3:00 Royal Palm Salon 5

Chair: Bill Walton

- 11:00 William Walton**, Diane Murphy  
PERFORMANCE OF TRIPLOID OYSTERS *Crassostrea virginica* ON COMMERCIAL SHELLFISH FARMS (MASSACHUSETTS, USA)
- 11:15 Claire Carver**, Andre L. Mallet, Marie-Helene Theriault, Matthew Hardy  
DEVELOPING STRATEGIES TO PROMOTE GROWTH PERFORMANCE AND MINIMIZE FOULING OF NEAR MARKET-SIZE EASTERN OYSTERS *Crassostrea virginica*
- 11:30 Victoria Ippolito**, John Supan, Steve Voisin  
TRIPLOID *Crassostrea virginica* (GMELIN) AS A VIABLE SUMMERTIME CROP IN LOUISIANA
- 11:45 Courtney Coddington**, William Walton, F. Scott Rikard, Blan Page  
ASSESSMENT OF COASTAL ALABAMA RIPARIAN SITES FOR COMMERCIAL PRODUCTION OF SINGLE SHELL EASTERN OYSTERS *Crassostrea virginica*
- 12:00 LUNCH**
- 1:30 Leslie Sturmer**, John Scarpa, Shirley Baker  
CULTURE OF HARD CLAM HYBRIDS *Mercenaria mercenaria*, *M. campechiensis*: RESULTS OF GROWOUT PRODUCTION TRIALS
- 1:45 Scott Rikard**, William Walton, Courtney Coddington, Glen Chaplin  
THE EFFECT OF HATCHERY EXPERIENCE ON FUTURE GROW-OUT OF OYSTER SPAT *Crassostrea virginica*
- 2:00 Nick King**, Norman Ragg, Jonathan Morrish, Ellie Watts  
FINDING THE LIMITS FOR CONTINUOUS-FLOW HIGH-DENSITY BIVALVE LARVICULTURE SYSTEMS
- 2:15 Andre Mallet**, Claire Carver  
INTEGRATING THE BRITE-BOX, AN ALGAL PHOTO-BIOREACTOR, INTO A SHELLFISH HATCHERY FOR THE PRODUCTION OF THE BAY SCALLOP *Argopecten irradians irradians*
- 2:30 Dale Leavitt**  
PERFORMANCE EVALUATION OF A FLOATING UPWELLER SYSTEM POWERED BY PHOTOVOLTAICS

## FRESHWATER MUSSEL PROPAGATION AND RESTORATION

Tuesday, March 2 11:00 - 3:00 Pacific Salon 5

Chair: Danielle Kreeger

- 11:00 M. Chris Barnhart**, Debra M. Barnhart, Nathan L. Eckert, Tracy Divis  
GROWTH OF FRESHWATER MUSSELS IN CAPTIVE CULTURE AND FREE IN RIVERS
- 11:30 Lubia Cajas Cano**, Christine Moffitt  
FEASIBILITY OF INTEGRATING NATIVE FRESHWATER MUSSELS WITH SALMONID AQUACULTURE
- 11:45 Angela Padeletti**, Danielle A. Kreeger, Matthew Gray, Steven G. Hughes  
BEFORE REINTRODUCTION: ASSESSING STREAM READINESS FOR FRESHWATER MUSSELS RESTORATION IN THE DELAWARE ESTUARY WATERSHED
- 12:00 Heidi Wood-Tucker**, Angela Padeletti, Michael DeHaven, Charles Owens, Catherine Gatenby, Danielle Kreeger, William Lellis, Steven Hughes  
LABORATORY CULTURE OF THE LIGHTFOOT MUSSEL *Elliptio complanata*
- 12:15 LUNCH**

- 1:30 Danielle Kreeger**, Angela Padeletti  
RESTORATION AQUACULTURE AS A TOOL FOR REBUILDING NATIVE BIVALVE ASSEMBLAGES AND ECOSYSTEM SERVICES: WATERSHED PERSPECTIVES
- 1:45 Joyce Barkley**, Catherine Gatenby, Richard Neves  
IMPACT OF ATRAZINE EXPOSURE ON GILL CILIA REGULATION IN EASTERN ELLIPTIOS *Elliptio complanata* AND RAINBOW MUSSELS *Villosa iris*
- 2:00 Robert Bringolf**, Jennifer A. Johnson, Jason Wisniewski  
IMMUNOSUPPRESSION OF NON-HOST FISH FOR MUSSEL PROPAGATION IN THE ABSENCE OF SUITABLE HOST FISH SPECIES
- 2:15 Rachel Mair**, Catherine M. Gatenby, Richard J. Neves  
A SUITABLE DIET, FEED CONCENTRATION, AND CULTURE SYSTEM FOR REARING ENDANGERED JUVENILE NORTHERN RIFFLESHELL *Epioblasma torulosa rangiana*
- 2:30 Catherine Gatenby**, Mathew Patterson, Rachel Mair, Julie Devers  
CLEARANCE RATE AS A NON-LETHAL MEASURE OF CONDITION IN FRESHWATER MUSSELS HELD AT DIFFERENT STOCKING DENSITIES
- 2:45 Andrea Crownhart**, Michael Pillow, Jingjing Miao, M. Chris Barnhart  
VARIATION OF METAMORPHOSIS SUCCESS IN FRESHWATER MUSSELS
- 3:00 Megan Bradley**, Brian Watson, Michael Odom  
EFFICACY OF FLOATING-BASKET POND CULTURE FOR EASTERN LAMPMUSSEL *Lampsilis radiata*

### SHRIMP HEALTH-BIOSECURITY CONTRIBUTED

Tuesday, March 2 11:00 - 3:00 Town & Country Room  
Chair: Jeff Lotz

- 11:00 Vanvimon Saksmerprom**, Patai Charoonart, Boonsirm Withyachumnarnkul  
HAIRPIN-RNA EXPRESSION CASSETTE BY TWO-STEP CLONING SYSTEM AND ITS POTENTIAL AS AN IMMUNE STIMULANT IN SHRIMP
- 11:15 Joshua Wilkenfeld**, Tzachi Samocha, Eudes Correia, Timothy Morris, Kelsey Holmes  
OBSERVATIONS ON GROW-OUT AND MATURATION OF THE F3 GENERATION, AND PRODUCTION OF F4-GENERATION VIRAL-PATHOGEN-FREE BROODSTOCK OF THE NORTHERN WHITE SHRIMP *Litopenaeus setiferus* – AN ONGOING EFFORT TO DEVELOP A LIVE BAIT-SHRIMP INDUSTRY IN THE USA
- 11:30 Kathy Tang**, Dongchun Yan, Donald Lightner  
DEVELOPMENT OF A MULTIPLEX REAL-TIME PCR ASSAY FOR DETECTION OF MONODON BACULOVIRUS (MBV) AND HEPATOPANCREATIC PARVOVIRUS (HPV) IN PENAEID SHRIMPS
- 11:45 Wansadaj Jaroenram**, Assawapong Sappat, Wansika Kiatpathomchai, Tanom Lomas, Adisorn Tuantranont, Timothy Flegel  
DETECTION OF SHRIMP TAURA SYNDROME VIRUS BY LOOP-MEDIATED ISOTHERMAL AMPLIFICATION USING A DESIGNED MULTICHANNEL PORTABLE TURBIDIMETER
- 12:00 LUNCH**
- 1:30 Xavier Lauth**, Jason Stannard, Tuong Tran, Kristina Coger, America Fujimoto, John Buchanan  
TOWARD ORAL DELIVERY OF AN RNAi BASED ANTIVIRAL THERAPEUTIC FOR SHRIMP AQUACULTURE
- 1:45 Pakkukul Sangsuriya**, Saengchan Senapin, Chu-Fang Lo, Timothy Flegel  
INTERACTION STUDY OF NOVEL SHRIMP PROTEIN Pm-FKBP FROM BLACK TIGER SHRIMP *Penaeus monodon* WITH A NUCLEOCAPSID PROTEIN VP15 FROM THE WHITE SPOT SYNDROME VIRUS
- 2:00 Fernando Aranguren**, Donald Lightner, Marcela Salazar  
DETERMINATION OF RESISTANCE OF TWO POPULATION OF *Penaeus vannamei* TO NHP-B

- 2:15 Solangel Navarro**, Linda Nunan, Kathy F. J. Tang, Donald V. Lightner  
DEVELOPMENT OF A PCR DIAGNOSTIC ASSAY FOR THE DETECTION AND DIFFERENTIATION OF EMERGING RICKETTSIA-LIKE BACTERIUM (RLB) AFFECTING A *P. monodon* SHRIMP FARM IN TANZANIA
- 2:30 Jeffrey Lotz**, Jana Rocker  
COMPARISON OF THE INTRA-HOST GENETIC VARIABILITY TAURA SYNDROME VIRUS (TSV) IN ACUTE AND CHRONIC INFECTIONS IN *Litopenaeus vannamei*
- 2:45 Jiraporn Rojtinnakorn**, Natthawoot Deekhlai, Chomporn Suwannayan, Timothy W. Flegel  
IN VITRO DIRECT INFECTION OF MAJOR VIRUSES INTO *Penaeus monodon* HEMOCYTES

## SEA URCHIN AQUACULTURE

Tuesday, March 2 11:00 - 5:30 Royal Palm Salon 3  
Chair: Chris Pearce

- 11:00 Stephen Cross**, C. Edwards, A. Bartsch  
PROBLEM TO OPPORTUNITY – USE OF THE SEA URCHIN *Strongylocentrotus droebachiensis* TO CONTROL BIOFOULING IN AN INTEGRATED MULTI-TROPHIC AQUACULTURE SYSTEM
- 11:15 Vidar Mortensen**  
SEA URCHIN BIOLOGY AND BEHAVIOR IN AQUACULTURE. DESIGN IMPLICATIONS FOR AQUACULTURE SYSTEMS
- 11:30 Vidar Mortensen**  
SEANEST – AN EFFECTIVE AUTOMATED SYSTEM FOR SEA BASED AQUACULTURE OF BENTHIC SPECIES. STATUS, DEVELOPMENTS AND EXPERIENCES FROM FULL SCALE OPERATION AT A SEA URCHIN FARM.
- 11:45 Gerry Mouzakitis**, Ana Pereira, John Chamberlain, Gavin Burnell  
PILOT-SCALE ASSESSMENT OF SEA URCHIN ONGROWING AND ROE ENHANCEMENT USING THE URCHINPLATTER™ SYSTEM
- 12:00 LUNCH**
- 1:30 Atle Mortensen**, Sten I. Siikavuopio  
WATER QUALITY REQUIREMENTS OF *Strongylocentrotus droebachiensis* IN CULTURE CONDITIONS
- 1:45 Sten Siikavuopio**, Atle Mortensen, Philip James, Trine Dale, Tror Andre Samuelsen, Øyvind Jørgensen  
EFFECTS OF FEED RATION ON SOMATIC GROWTH AND FEED UTILIZATION IN JUVENILE SEA URCHIN *Strongylocentrotus droebachiensis*
- 2:00 Muki Shpigel**, Sharon Marciano, David Ben-Ezra, Ami Ben-Amotz, Ingrid Lupatsch  
CULTURE OF THE SEA-URCHINS *Paracentrotus lividus* IN MULTI-TROPHIC INTEGRATED SYSTEMS
- 2:15 Christopher Pearce**, Deborah Bickerton, Scott Leonard, Laurie Keddy, John Blackburn  
EFFECT OF TEMPERATURE ON GONAD YIELD AND GONAD SENSORY ATTRIBUTES IN THE GREEN SEA URCHIN *Strongylocentrotus droebachiensis*
- 2:30 Steve Eddy**, Nick Brown, Addison Lawrence, Steve Watts, Ashley Kling  
EFFECTS OF VARYING PROTEIN AND CARBOHYDRATE LEVELS ON SOMATIC GROWTH OF THE GREEN SEA URCHIN *Strongylocentrotus droebachiensis*
- 2:45 Victoria Gibbs**, Anna Taylor, Addison Lawrence, Stephen Watts  
CONSIDERATIONS OF LEACHING IN MEASURING FEED INTAKE AND APPARENT DIGESTIBILITY IN THE SEA URCHIN *Lytechinus variegatus*
- 3:00 BREAK**
- 3:30 Nature McGinn**, Gary Cherr  
FLUOXETINE (PROZAC®) MODIFIES THE FUNCTION OF AN IMPORTANT CELLULAR DEFENSE MECHANISM IN SEA URCHIN EMBRYOS

- 3:45** **Mickie Powell**, Jessica Eberhard, Vithal Ghanta, Addison Lawrence, Stephen Watts  
EFFECT OF A PREBIOTIC, SHORT-CHAIN FRUCTOOLIGOSACCHARIDE ON COELOMOCYTE POPULATIONS IN *Lytechinus variegatus*
- 4:00** **Stephen Watts**, Mickie Powell  
CHARACTERIZATION OF SEA URCHIN SCAT: CAN WE PREDICT ANIMAL HEALTH
- 4:15** **Phil James**  
THE GAINS AND STUMBLING BLOCKS OF DEVELOPING A SEA URCHIN ROE ENHANCEMENT INDUSTRY IN NEW ZEALAND
- 4:30** **Warren Jones**, Anthony Siccardi, Stephen Watts, Addison Lawrence  
EFFECT OF ASCORBIC ACID ON WEIGHT GAIN AND ORGAN PRODUCTION IN ADULT *Lytechinus variegatus*
- 4:45** **Laura Heflin**, Victoria Gibbs, Mickie Powell, Addison Lawrence, John Lawrence, Stephen Watts  
EFFECT OF DIETARY PROTEIN AND CARBOHYDRATE LEVELS ON WEIGHT GAIN AND ORGAN PRODUCTION IN THE SEA URCHIN *Lytechinus variegatus*

## MULTI-TROPHIC AQUACULTURE

Tuesday, March 2 11:00 - 5:30 Pacific Salon 3

Chairs: Bruce McDonald, Amir Neori

Moderator: Bruce McDonald

- 11:00** **Thierry Chopin**  
FROM INTEGRATED MULTI-TROPHIC AQUACULTURE (IMTA) TO NUTRIENT AND CARBON TRADING CREDITS: RECOGNIZING AND VALUATING THE ECOSYSTEM SERVICES AND BENEFITS OF THE EXTRACTIVE COMPONENTS OF IMTA
- 11:45** **William Wurts**  
SUSTAINABLE AQUACULTURE: THE CHANGING HORIZON
- 12:00** **Stephen Cross**  
THE SUSTAINABLE ECOLOGICAL (SEA/IMTA) SYSTEM – A PROFITABLE MODEL FOR "ORGANIC" SEAFOOD PRODUCTION
- 12:15** **LUNCH**
- 1:30** **Ana Nobre**, Amir Neori, Deborah Robertson-Andersson, Kishan Sankar  
ECOLOGICAL-ECONOMIC ASSESSMENT OF SUSTAINABLE AQUACULTURE OPTIONS: THE BENEFITS OF IMTA WITH SEAWEEDS TO ABALONE CULTURE
- 1:45** **Gamze Turan**, Hatice Tekogul, Edis Koru, Semra Cirik  
SEAWEED-BASED INTEGRATED MULTI-TROPHIC AQUACULTURE (IMTA): A POTENT SOLUTION FOR SUSTAINABLE AQUACULTURE IN TURKEY
- 2:00** **Rhea Joy Carton**, Hajime Kimura, Masahiro Notoya  
INTEGRATION OF COMMERCIALY-IMPORTANT SEAWEEDS WITH FINFISH: THE JAPAN IMTA EXPERIENCE

Moderator: Thierry Chopin

- 2:15** **Amir Neori**, Ana M. Nobre  
ALL THAT GLITTERS IS NOT GOLD: WHY NOT 'HIGH VALUE' CARNIVORES BUT 'LOW VALUE' SEAWEEDS, HERBIVORES AND OMNIVORES LEAD AQUACULTURE PRODUCTION
- 2:30** **Deborah Robertson-Andersson**, Gavin Maneveldt, Max Troell, John Bolton  
SUSTAINABILITY AND IMTA IN SOUTH AFRICAN AQUACULTURE
- 2:45** **Alejandro H. Buschmann**  
DEVELOPMENT OF AN INTEGRATED SEAWEED-BASED AQUACULTURE (IMTA) STRATEGY IN CHILE

**3:00 BREAK**

**3:30 Ik Kyo Chung**, Yun Hee Kang, Sang Rul Park, Tae Ho Seo, Jong Ahm Shin  
EVALUATION OF BIOFILTRATION EFFICIENCY AND PHOTOSYNTHETIC ACTIVITY OF *Porphyra yezoensis*  
APPLIED TO INTEGRATED MULTI-TROPIC AQUACULTURE: FROM MICRO-SCALE TO MESO-SCALE

**3:45 Flower Msuya**  
THE IMPACT OF SEAWEED FARMING ON THE SOCIOECONOMIC STATUS OF COASTAL COMMUNITIES  
IN ZANZIBAR, TANZANIA

**4:00 Michael Pietrak**, Andrew Lazur, William Otto  
USE OF AQUATIC PLANTS IN A FRESHWATER INTEGRATED MULTI-TROPIC AQUACULTURE SYSTEM

**4:15 Shawn Robinson**, Terralynn Lander, Gregor Reid, Bruce MacDonald, Thierry Chopin, Mathew Liutkus, Les  
Burridge, Fred Page, Neil Ridler, Michael Szemerda, Frank Powell  
CHOOSING WHAT TO MAXIMIZE IN AN INTEGRATED MULTI-TROPIC AQUACULTURE (IMTA) SYSTEM:  
THE ROLE OF SHELLFISH AS THE ORGANIC BIOFILTER

**4:30 Charles Yarish**, José Zertuche-González, Isai Pacheco-Ruiz, Barry Costa-Pierce  
THE DEVELOPMENT OF AN INTEGRATED MULTI-TROPIC AQUACULTURE SYSTEM FOR NORTHERN  
BLUEFIN TUNA *Thunnus orientalis* IN THE ENSENADA REGION OF NORTHERN BAJA CALIFORNIA, MEXICO

**4:45 Gregor Reid**, Shawn S. M. Robinson, Thierry Chopin  
EFFICIENCIES OF OPEN WATER, INTEGRATED MULTI-TROPIC AQUACULTURE: RECONCILING  
MEASURES OF ECOLOGY AND AQUACULTURE PRODUCTION

**5:00 Sally Molloy**, Michael Pietrak, Debbie Bouchard, Ian Bricknell  
DO MUSSELS HELP SPREAD DISEASE OR ELIMINATE IT ON AN INTEGRATED POLYTROPIC FISH  
FARM?

**5:15 Maria Helena Abreu**, Rui Pereira, Félix Figueroa, Alejandro Buschmann, Charles Yarish, Isabel Sousa-Pinto  
INTEGRATED MULTI-TROPIC AQUACULTURE IN PORTUGAL: EXPERIMENTS WITH THE RED SEAWEED  
*Gracilaria vermiculophylla* (Ohmi) Papenfuss IN A SOLE AND TURBOT FISH FARM

### **ADVANCES IN LARVICULTURE**

Tuesday, March 2 13:30 - 5:30 Sunrise Room  
Chairs: Joan Holt, C. Mischke

**11:00 Amanda Prussing**, Chris Hartleb, Jeff Malison, Jim Held  
OPTIMIZING POND FERTILIZATION FOR YELLOW PERCH LARVICULTURE

**11:15 Christopher Hartleb**, Greg Fischer, Matt Symbol, Kendall Holmes  
IMPROVED CULTURE TECHNIQUES FOR LARVAL LAKE HERRING

**11:30 Gregory A. Dudenhoefter**, James E. Wetzel, Thomas R. Omara-Alwala  
WEANING NORTHERN BLUEGILL *Lepomis macrochirus* AND REDEAR SUNFISH *L. microlophus* LARVAE IN  
AN INDOOR WATER RECYCLED SYSTEM

**11:45 Jason Lemus**, Brie Sarkisian, Michael Lee  
ASSESSMENT OF THE EFFECTIVENESS OF AN INCREASE IN TANK SIZE ON THE CULTURE OF THE  
COPEPOD *Acartia tonsa* (CALANOIDA)

**12:00 Cortney Ohs**, Kelly Chang, Scott Grabe, Erik Stenn, Matthew DiMaggio  
EVALUATION OF DIETARY MICROALGAE FOR CULTURE OF THE CALANOID COPEPOD *Pseudodiaptomus*  
*pelagicus*

**12:15 LUNCH**

**1:30 Mari Moren**, Ana Rita Ribeiro, Andreas Nordgreen, Øystein Sæle, Samuel Penglase, Kristin Hamre  
IODINE AND SELENIUM CONCENTRATIONS IN ROTIFERS ARE LOW COMPARED TO COPEPODS –

EFFECT OF IODINE AND SELENIUM ENRICHED LIVE PREY ON ATLANTIC COD, ATLANTIC HALIBUT AND SENEGALESE SOLE LARVAE

- 1:45 Tim Reed**, Randy Reed  
OPTIMIZING LARVAL NUTRITION: ROTIFER ENRICHMENT AND PRODUCTION SOLUTIONS USING MICROALGAL CONCENTRATES
- 2:00 Kevin Stuart**, Keri Maull, Mike Gafford, Mark Drawbridge  
ADVANCES IN LARVAL REARING OF CALIFORNIA YELLOWTAIL *Seriola lalandi*
- 2:15 Emily Hart**, Harold Barnett, Peter Nicklason, Ronald Johnson, Cameron Carter, Frederic Barrows, Michael Rust  
CHARACTERIZATION OF SEVERAL OPEN FORMULA REFERENCE DIETS FOR MARINE FISH LARVAE
- 2:30 Velmurugu Puvanendran**, Trilochan Swain, Øyvind J. Hansen, Thomas Jorgensen, Helge Tveiten, Atle Mortensen  
EFFECTS OF THREE INTENSIVE CULTURE METHODS ON THE BEHAVIOUR GROWTH, SURVIVAL AND STRESS LEVELS OF ATLANTIC COD LARVAE
- 2:45 P. Rush Battle**, Steven R. Craig, G. Joan Holt  
ENHANCED ROTIFER AND ARTEMIA ENRICHMENTS FOR WARMWATER MARINE FINFISH
- 3:00 Konrad Dabrowski**, Bong Joo Lee, Sergiusz Czesny  
DOES WATER TEMPERATURE DURING EARLY EMBRYOGENESIS DICTATE WHICH PHENOTYPES ARE MORE VIABLE LATER IN LIFE?
- 3:30 Marisol Izquierdo**, William Koven  
ESSENTIAL FATTY ACIDS FOR FISH LARVAE: PHYSIOLOGICAL ROLE AND DIETARY REQUIREMENTS
- 3:45 Maria Célia Portella**, Monica Giacometti Mai, Sofia Engrola, Sofia Moraes, Jose Roberto Verani, Maria Teresa Dinis, Luis E. C. Conceição  
CO-FEEDING OF LIVE FEED AND INERT DIET FROM FIRST-FEEDING AFFECTS ARTEMIA LIPID DIGESTIBILITY AND RETENTION IN SENEGALESE SOLE *Solea senegalensis* LARVAE
- 4:00 Amy Riedel**, Tim Reed  
A COMPARISON OF FATTY ACID PROFILES OF *Brachionus plicatilis* ROTIFERS FED A VARIETY OF COMMERCIALY AVAILABLE DIETS
- 4:15 Kevin Stuart**, Mike Gafford, Mark Drawbridge  
ADVANCES IN LARVAL REARING OF WHITE SEABASS *Atractoscion nobilis*
- 4:30 Ione Hunt von Herbing**  
STRESSED OUT! A POSSIBLE REASON WHY FISH DO NOT GROW AT MAXIMAL RATES
- 4:45 Juan P Lazo**, Veronica Vizcaino, Benjamin Baron-Sevilla, Mark Drawbridge  
THE EFFECT OF DIETARY DHA ON GROWTH, SURVIVAL AND PIGMENTATION OF CALIFORNIA HALIBUT *Paralichthys californicus* LARVAE: A NEW HYPOTHESIS FOR EFA REQUIREMENT IN FLATFISHES
- 5:00 Kenneth Webb**, G. Joan Holt  
INCREASED INGESTION AND TRYPSIN RESPONSES OF RED DRUM *Sciaenops ocellatus* LARVAE EXPOSED TO ROTIFER HOMOGENATE
- 5:15 Leonardo Ibarra Castro**, Kenneth A. Webb Jr, G. Joan Holt  
MOLECULAR CLONING, TISSUE DISTRIBUTION, AND ONTOGENETIC EXPRESSION OF GROWTH HORMONE IN COBIA *Rachycentron canadum*

**CATFISH CONTRIBUTED**

Tuesday, March 2 11:00 - 5:30 California Room  
Chair: Jim Steeby

- 11:00 Lin Xie**, Peter Perschbacher  
WATER QUALITY CORRELATIONS FROM COOL AND WARM SEASON SAMPLING ON FOUR COMMERCIAL CATFISH FARMS
- 11:15 Claude Boyd**, Rawee Viriyatum  
AERATOR USE IN ALABAMA CHANNEL CATFISH PONDS
- 11:30 Gregory Whitis**  
PARTITIONED AQUACULTURE SYSTEM: FIRST YEAR RESULTS OF A COMMERCIAL SPLIT POND IN WEST ALABAMA
- 11:45 Travis W. Brown**, Jesse A. Chappell, Terry R. Hanson  
COMMERCIAL PRODUCTION OF CHANNEL CATFISH *Ictalurus punctatus* AND HYBRID CATFISH *Ictalurus punctatus x Ictalurus furcatus* UTILIZING AN IN-POND RACEWAY SYSTEM IN WEST ALABAMA
- 12:00 LUNCH**
- 1:30 Bart Green**  
REARING CHANNEL CATFISH IN A BIOFLOC PRODUCTION SYSTEM
- 1:45 Puttitorn Saengrungruang**, Claude Boyd  
EVALUATION OF TWO POROUS GEOFABRIC LINERS IN CHANNEL CATFISH PONDS
- 2:00 Nagaraj Chatakondi**, Brian Bosworth, Brian Peterson, Natha Booth  
MAKING A BETTER HYBRID CATFISH: CAN HYBRIDIZATION OF CHANNEL CATFISH SELECTED FOR ESC RESISTANCE IMPROVE DISEASE RESISTANCE?
- 2:15 Les Torrans**, Brian Ott  
IMPACT OF DISSOLVED OXYGEN ON FEED CONVERSION, FEED CONSUMPTION, AND GROWTH OF BLUE CATFISH *Ictalurus furcatus*, CHANNEL CATFISH *I. punctatus*, AND BLUE X CHANNEL CATFISH HYBRIDS
- 2:30 Bart Green**  
PRODUCTION OF CHANNEL CATFISH AND CHANNEL X BLUE HYBRID CATFISH SUBJECTED TO TWO MINIMUM DISSOLVED OXYGEN CONCENTRATIONS
- 2:45 Yass Kobayashi**, Brian Peterson, Geoff Waldbieser  
IDENTIFICATION OF TWO CHOLECYSTOKININ MRNA IN CHANNEL CATFISH: THEIR TISSUE DISTRIBUTION AND CHANGES IN THEIR EXPRESSION AFTER PROLONGED FASTING AND REFEEDING
- 3:00 BREAK**
- 3:30 Menghe Li**, Edwin Robinson, Brian Bosworth, Daniel Oberle, Penelope Lucas  
USE OF COTTONSEED MEAL AND CORN GLUTEN FEED TO REPLACE SOYBEAN MEAL AND CORN IN DIETS FOR POND-RAISED CHANNEL CATFISH *Ictalurus punctatus*
- 3:45 D. Roger Yant**, Christopher Green  
COMMON CARP *Cyprinus carpio* AND CHANNEL CATFISH *Ictalurus punctatus* PITUITARY AS A SPAWNING AID TO PRODUCE HYBRID CATFISH
- 4:00 Noel Novelo**, Terrence Tiersch  
ULTRASOUND IMAGING OF SEASONAL OVARIAN DEVELOPMENT IN ADULT CHANNEL CATFISH
- 4:15 Douglas Kuenz**, Noel Novelo, Christopher Green, Terrence Tiersch  
HISTOLOGICAL AND ULTRASOUND ASSESSMENT OF SEASONAL OVARIAN MATURATION IN ADULT CHANNEL CATFISH
- 4:30 Bernardo Baldisserotto**, Mauro Cunha, Francisco Barros, Luciano Garcia, Ana Paula Veeck, Berta Heinzmann, Vania Loro, Tatiana Emanuelli  
ESSENTIAL OIL OF *Lippia alba*: A NEW ANESTHETIC FOR FISH

**4:45 Pratheesh Sudhakaran**, David Heikes, Carole Engle, Steeve Pomerleau  
EVALUATION OF A TRAWL TO ESTIMATE THE INVENTORY OF CATFISH IN COMMERCIAL PONDS

**5:00 Ganesh Kumar**, Carole Engle  
THE EFFECT OF HYBRID CATFISH FINGERLING PRICES ON THE RELATIVE PROFITABILITY OF HYBRID  
*Ictalurus punctatus* FEMALE x *Ictalurus furcatus* MALE, NWAC-103 *Ictalurus punctatus*, AND CHANNEL  
CATFISH *Ictalurus punctatus*

## **AQUATIC GERMPLASM**

Tuesday, March 2 11:00 – 5:30 Royal Palm Salon 6  
Chair: Terry Tiersch

**11:00 Terrence Tiersch**  
SIXTY YEARS OF CRYOPRESERVATION RESEARCH IN AQUATIC SPECIES

**11:15 L. Christine Savolainen**, Huiping Yang, Terrence R. Tiersch  
SPERM QUALITY ASSESSMENT IN AQUATIC SPECIES: COMPUTER-ASSISTED SPERM ANALYSIS (CASA)

**11:30 Jonathan Daly**, Terrence Tiersch  
SPERM QUALITY ASSESSMENT IN AQUATIC SPECIES: FLOW CYTOMETRY

**11:45 Huiping Yang**, Terrence Tiersch  
BIG PROBLEM WITH LITTLE FISH: SPECIFIC CONSIDERATIONS FOR SPERM CRYOPRESERVATION OF  
BIOMEDICAL RESEARCH MODEL FISHES

**12:00 LUNCH**

**1:30 E. Hu**, Huiping Yang, Jeff Baxter, Terrence Tiersch  
HIGH-THROUGHPUT CRYOPRESERVATION OF FISH SPERM: BLUE CATFISH PROTOCOL DEVELOPMENT  
AND HATCHERY APPLICATION

**1:45 Terrence Tiersch**  
INDUSTRY DEVELOPMENT FOR GERMPLASM AND GENETIC RESOURCES IN AQUATIC SPECIES

**2:00 Workshop**

**3:30 L. Curry Woods III**, Katy Dorsey, Jerre Mohler, David Guthrie, Glenn Welsh  
A PROTOCOL FOR THE SHORT-TERM STORAGE OF ATLANTIC STURGEON SEMEN

**3:45 Rafael Cuevas-Uribe**, Edward Chesney, Harry Daniels, Robin Sanderson, Terrence Tiersch  
INITIAL STUDIES IN SPERM VITRIFICATION OF MARINE FISHES

**4:00 Valerie Barbosa-Solomieu**, E Hu, Huiping Yang, Terrence R. Tiersch, John T. Buchanan  
DEVELOPMENT OF A STANDARDIZED PROTOCOL FOR HIGH-THROUGHPUT CRYOPRESERVATION OF  
THE SPERM OF ATLANTIC SALMON *Salmo salar*

**4:15 Amrit Bart**, Anocha Kiriyakit Kiriyakit, Wenresti Gallardo  
HYBRIDIZATION OF GROUPERS (*Epinephelus coioides* x *Epinephelus lanceolatus*) USING  
CRYOPRESERVED SPERM

## **LIPIDS IN AQUACULTURE NUTRITION AND PHYSIOLOGY**

Tuesday, March 2 11:00 - 5:30 Pacific Salon 1  
Chairs: Jesse Trushenski, Rebecca Lochmann, Ron Hardy, Giovanni Turchini  
Sponsored by: AFS Fish Culture Section and U.S. Aquaculture Society

**11:00 Giovanni Turchini**, Chris Carter, Peter Nichols  
LIPIDS IN AQUACULTURE AT 2009 ISF – AN UPDATE ON KEY FINDINGS

- 11:15 Ronald Twibell**, Ann Gannam, Susan Ostrand, John Holmes, Jeff Poole  
EFFECTS OF A MARINE FISH OIL-FREE DIET ON GROWTH AND FATTY ACID COMPOSITION OF FIRST-FEEDING RAINBOW TROUT AND STEELHEAD
- 11:30 Heidi Lewis**, Jesse Trushenski, Michael Schwarz, Jerome Laporte, Brendan Delbos, Ricardo Takeuchi, Luis Sampaio  
EFFECT OF REPLACING DIETARY FISH OIL WITH SOYBEAN OIL ON PRODUCTION PERFORMANCE AND FILLET FATTY ACID COMPOSITION OF JUVENILE COBIA
- 11:45 Jesse Trushenski**, John Boesenberg  
INFLUENCE OF DIETARY FISH OIL CONCENTRATION AND FINISHING PERIOD DURATION ON BENEFICIAL FATTY ACID PROFILE RESTORATION IN SUNSHINE BASS
- 12:00 LUNCH**
- 1:30 Jesse Trushenski**, Bonnie Mulligan, Patrick Blaufuss, Jerome Laporte  
PRODUCTION PERFORMANCE AND TISSUE FATTY ACID COMPOSITION OF RAINBOW TROUT FED DIETS CONTAINING TRADITIONAL AND NOVEL LIPIDS
- 1:45 Rebecca Lochmann**, Steven Rawles, Todd Sink, Harold Phillips, Rick Barrows, Peter Bechtel  
USE OF ALASKAN POLLACK VISCERAL MEAL IN DIETS OF CHANNEL CATFISH TO ENHANCE THE N-3 HUFA CONTENT OF THE FILLET
- 2:00 Rebecca Lochmann**, Steven Rawles, Todd Sink, Harold Phillips, Rick Barrows, Peter Bechtel  
PARTIAL REPLACEMENT OF MENHADEN OIL WITH ALASKAN POLLACK VISCERAL MEAL IN DIETS FOR LARGEMOUTH BASS *Micropterus salmoides*
- 2:15 Jimmy Faulkner**, Harold Phillips, Todd Sink, Rebecca Lochmann  
EFFECTS OF DIETS SUPPLEMENTED WITH STANDARD SOYBEAN OIL, SOYBEAN OIL ENRICHED WITH CONJUGATED LINOLEIC ACIDS, MARINE FISH OIL, OR AN ALGAL N-3 FATTY ACID CONCENTRATE ON GROWTH, HEALTH, FEED CONVERSION, SURVIVAL, BODY COMPOSITION, AND SHELF LIFE OF CHANNEL CATFISH
- 2:30 Giovanni Turchini**, Marina Paolucci, David Francis, John Donald  
LEPTIN AND DIETARY LIPID SOURCES IN FARMED FINFISH
- 2:45 Daniel Montero**, Maria J. Caballero, Rachid Ganga, Silvia Torrecillas, Marisol Izquierdo  
DIETARY TERRESTRIAL VEGETABLE OILS AND THE EFFECT ON FISH HEALTH: ARE FISH FED ON VEGETABLE OILS HEALTHY?
- 3:00 BREAK**
- 3:30 Marisol Izquierdo**, Rachid Ganga, María José Caballero, Daniel Montero  
WELFARE OF FISH FED VEGETABLE OILS AS ALTERNATIVE LIPID SOURCES TO FISH OIL
- 3:45 Federica Bellagamba**, Fabio Caprino, Maria L. Busetto, Davis S. Francis, Giovanni M. Turchini, Vittorio M. Moretti  
ASSESSMENT OF OXIDATIVE STRESS DAMAGE IN RAINBOW TROUT *Oncorhynchus mykiss* FED WITH DIFFERENT LIPID SOURCES BY LC-MS/MS DNA ADDUCTS MEASUREMENT
- 4:00 Eva Brännäs**, Andreas Pettersson, Jana Pickova  
THE EFFECT OF FEEDING THE ARCTIC CHARR *Salvelinus alpinus* A DIET WITH TROPICAL PALM OIL
- 4:15 Jana Pickova**, Sofia Trattner, Afaf Kamal-Eldin, Eva Brännäs  
BIOACTIVE COMPOUNDS OF PLANT OILS IN AQUAFEEDS
- 4:30 Majid Nikzad Hassankiadeh**, Majid Nikzad Hassankiadeh  
INFLUENCE OF DIFFERENT DIETARY n-3/n-6 AND 18:1n-9/n-3 RATIOS ON GROWTH PERFORMANCE AND CARCASS FATTY ACID COMPOSITION IN FARMED CASPIAN GREAT STURGEON *Huso huso* JUVENILES

- 4:45 Stefan Kraan**, Patrick Martin, Colin Mair  
REPLACEMENT OF SYNTHETIC INGREDIENTS BY HIGH LEVELS OF MACROALGAE IN SALMON FISH FEED; IMPROVEMENTS IN FATTY ACID PROFILES, PIGMENTATION AND TASTE
- 5:00 Ron Johnson**, Eric Kroeger, Cameron Carter, Michael Rust  
THE EFFECTS OF ELEVATING THE DOCOSAHEXAENOIC ACID (DHA) CONTENT OF CULTURED SALMON EGGS ON EGG AND FRY QUALITY
- 5:15 Steven Rawles**, Rebecca Lochmann, Todd Sink, Rick Barrows, Peter Bechtel  
PARTIAL REPLACEMENT OF MENHADEN OIL WITH ALASKAN POLLACK VICERAL MEAL IN STRIPED BASS *Morone saxatilis* AND SUNSHINE BASS *M. chrysops* X *M. saxatilis* DIETS

### ZEBRAFISH HUSBANDRY WORKSHOP

Tuesday, March 2 1:30 - 5:30 Pacific Salon 2  
Chair: Bobbi Baur

- 1:30 Mark Francis**, Dan Castranova, Zoltan Varga  
INTRODUCTION AND WELCOME
- 1:45 Steve Watts**  
STANDARDIZATION OF ZEBRAFISH NUTRITION – PRELIMINARY SUMMARY AND RECOMMENDATIONS
- 2:10 Christian Lawrence**  
ENVIRONMENTAL AND GENETIC DETERMINANTS OF SEX IN LABORATORY ZEBRAFISH
- 2:35 Kenji Murata**  
MEDAKA HUSBANDRY REVIEW FOR ZF PROFESSIONALS
- 3:00 BREAK**
- SPECIAL SECTION: Peer Submitted and Reviewed Presentations Coordinated by ZHA**
- 3:30 Kay Stewart**  
ZEBRAFISH HUSBANDRY – MAINTAINING AND REARING ALBINO ZEBRAFISH
- 3:50 Sarah Doty, David Shanholtzer**  
LIVING TOGETHER BEFORE MATING: REPRODUCTIVE SUCCESS IN SINGLE SEX AND MIXED SEX TANKS IN ZEBRAFISH *Danio rerio*
- 4:10 Chris Obenschain**  
AUTOMATED FEED SYSTEM- ADVANCED HUSBANDRY TECHNOLOGIES
- 4:30 Eric Herbst**  
THE EFFECT OF STOCKING DENSITY ON EMBRYO PRODUCTION OF ZEBRAFISH *Danio rerio* HOUSED IN THE MINI MASS EMBRYO PRODUCTION SYSTEM, MINIMEPS™
- 4:50 Isaac Adatto**  
A NOVEL GROUP SPAWNING CHAMBER FOR ZEBRAFISH
- 5:10 Jason Best**  
A NEW METHOD FOR REARING LARVAL ZEBRAFISH WITH TYPE "L" SALTWATER ROTIFERS *Brachionus plicatilis*

### TOWN HALL ENGAGEMENT WITH FEDERAL AQUACULTURE PROGRAMS

Tuesday, March 2 1:30 - 5:30 San Diego Room  
Chair: Betsy Hart

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 2010.

### **Participating Agencies and Representatives:**

Joint Subcommittee on Aquaculture (Meryl Broussard), APHIS-Veterinary Services (Jill Rolland), APHIS-Wildlife Services (Shelley Gray), ARS (Jeff Silverstein), NIFA (Gary Jensen), FDA-Center for Veterinary Medicine (Jennifer Matysczak), FDA-Center for Food Safety and Applied Nutrition (Bill Jones), FSIS (Carl Schroeder) NOAA Fisheries (Michael Rubino), NOAA Sea Grant (Gene Kim), USFWS (Stuart Leon), and USGS (Mark Gaikowski)

## **THERAPEUTIC DRUG RESEARCH**

Tuesday, March 2 1:30 - 5:30 Royal Palm Salon 2  
Chairs: David Straus, Jim Bowker

- 1:30 David Straus**, James Bowker, Molly Bowman, Andrew Mitchell, Bradley Farmer  
THE SAFETY OF AQUAFLO® MEDICATED FEED TO SUNSHINE BASS
- 1:45 Andrew Mitchell**, Dave Straus, Bradley Farmer, Ray Carter  
COMPARING COPPER SULFATE, DIQUAT BROMIDE, FORMALIN, AND HYDROGEN PEROXIDE TREATMENTS ON CHANNEL CATFISH EGGS INFESTED WITH AQUATIC FUNGI
- 2:00 Ahmed Darwish**  
EFFECTIVENESS OF EARLY INTERVENTION WITH FLORFENICOL ON A *Streptococcus iniae* INFECTION IN BLUE TILAPIA
- 2:15 Mark Gaikowski**, Lou Crouch, Richard Endris, Shawn Charles, Melissa Whitsel, Susan Schleis  
USE OF FLORFENICOL IN RECIRCULATING AQUACULTURE SYSTEMS: DEPLETION OF FLORFENICOL IN WATER AND FLORFENICOL AMINE FROM TILAPIA FILLET FOLLOWING DOSING WITH FLORFENICOL-MEDICATED FEED
- 2:30 Maren Tuttle-Lau**, Ken Phillips, Mark Gaikowski  
EVALUATION OF THE EFFICACY OF IODOPHOR DISINFECTION OF WALLEYE *Sander vitreum* AND NORTHERN PIKE *Esox lucius* EGGS TO CONTROL VIRAL HEMORRHAGIC SEPTICEMIA VIRUS (STRAIN IVb)
- 2:45 Maren Tuttle-Lau**, Mark Gaikowski, Susan Schleis  
EFFICACY OF HYDROGEN PEROXIDE TO CONTROL MORTALITY CAUSED BY *Saprolegnia parasitica* IN RAINBOW TROUT *Oncorhynchus mykiss*
- 3:00 BREAK**
- 3:30 Kim Fredricks**, Jeffery Meinertz, Ryan Ambrose, Leann Jackan, Jeremy Wise, Mark Gaikowski  
FEEDING RESPONSE OF FRESHWATER FISH AFTER CHEMICAL SEDATION BY BENZOCAINE OR EUGENOL
- 3:45 Kim Fredricks**, Jeffery Meinertz, Ryan Ambrose, Leann Jackan, Jeremy Wise, Mark Gaikowski  
EFFECT OF CHEMICAL SEDATION WITH BENZOCAINE OR EUGENOL ON CATCHABILITY OF FISH IN OUTDOOR PONDS
- 4:00 Abel Carrias**, Nancy Capps, Pricilla Barger, Choa Ran, Joe C. Newton, Mark R. Liles, Jeffery S. Terhune  
APPLICATION OF BACTERIOPHAGES FOR BIOCONTROL OF ENTERIC SEPTICEMIA OF CATFISH
- 4:15 Natasa Tusevljak**, Andrijana Rajic, Lucie Dutil, Lisa Waddell, F. Carl Uhland, Barbara J. Wilhelm, Judy Greig, Brent Avery, Richard Reid-Smith, Carol McClure, Sophie St-Hilaire, Scott McEwen  
EVALUATING THE IMPORTANCE OF ANTIMICROBIAL USE AND RESISTANCE IN ZONOTIC BACTERIA IN AQUACULTURE
- 4:30 Todd Blessinger**  
STATISTICAL METHODS USED IN AQUACULTURE DRUG APPROVAL

**DOWN AND DIRTY WITH SMALL-SCALE SHELLFISH GROWERS, HOBBYISTS, AND GARDNERS**

Tuesday, March 2 3:30 - 5:30 Royal Palm Salon 5  
Chairs: Leslie Sturmer, T. King

- 3:30 Raymond RaLonde**  
TECHNIQUES FOR SMALL INDEPENDENT SHELLFISH FARMERS
- 3:45 Raymond RaLonde**  
TRAINING STARTUP OYSTER FARMERS
- 4:00 Daniel Barth**  
CHILDREN'S WADING POOL CLAMS: A SHELLFISH AQUACULTURE PROGRAM IN WASHINGTON STATE, USA TO REAR MANILA CLAMS *Tapes japonica* FROM HATCHERY SEED TO FULL GROW OUT IN ONE METER DIAMETER CHILDREN'S WADING POOLS (KIDDIE POOLS), AND ITS POTENTIAL TRANSFER TO EUROPEAN CARPETSHELL CLAMS *Ruditapes decussatus* AND VENUS CLAMS *Venus verrucosa*
- 4:15 Tim Reed**  
BIVALVE SHELLFISH FEEDS: NUTRITION, EFFECTIVENESS AND ECONOMICS
- 4:30 Leslie Sturmer**  
DECISION-SUPPORT TOOLS FOR SMALL-SCALE CLAM GROWERS IN FLORIDA
- 4:45 Jack Whetstone, William Anderson**  
PRACTICAL INNOVATIONS AND ADAPTATIONS IN SHELLFISH AQUACULTURE IN SOUTH CAROLINA
- 5:00 John Ewart, EJ Chalabala, Frank Marengi, Susan Mitchell, Gulnihal Ozbay**  
SMALL-SCALE REMOTE SETTING AND USE OF EXISTING OFF-BOTTOM STRUCTURE FOR OYSTER STOCK ENHANCEMENT IN DELAWARE'S COASTAL (INLAND) BAYS

### **NEW SHELLFISH SPECIES FOR CULTURE**

Tuesday, March 2 3:30 - 5:30 Pacific Salon 5  
Chair: Ray Ralonde

- 3:30 Raymond RaLonde**  
PURPLE HINGE ROCK SCALLOP CULTURE *Crassadoma gigantea* IN ALASKA: RESULTS OF A FOUR-YEAR GROWOUT STUDY
- 3:45 Helen Gurney-Smith, Wenshan Liu, Anya Epelbaum, Abayomi Alabi, Chris Pearce**  
THE BASKET COCKLE: A POTENTIAL NEW AQUACULTURE SPECIES
- 4:00 Chris Langdon, Mark Camara, Joth Davis, Masashi Sekino, Dennis Hedgecock**  
ESTABLISHMENT OF NEW BROODSTOCK OF THE KUMAMOTO OYSTER *Crassostrea sikamea* (AMEMIYA 1928) FOR THE U.S. WEST COAST SHELLFISH INDUSTRY
- 4:15 Kristina Straus, Joshua Bouma, Don Rothaus, Jonathan Davis, Glenn VanBlaricom, Bethany Stevick, Betsy Peabody, Brent Vadopalas, Carolyn Friedman**  
APPROACHES TO PINTO ABALONE *Haliotis kamtschatkana kamtschatkana* RESTORATION
- 4:30 Dale Leavitt**  
ALTERNATIVE SHELLFISH SPECIES FOR THE NORTHEAST U.S. (PART 1): SURF CLAMS, SOFT-SHELL CLAMS AND RAZOR CLAMS
- 4:45 Tessa Getchis**  
ALTERNATIVE SHELLFISH SPECIES FOR THE NORTHEAST U.S. (PART 2): SEA SCALLOPS AND SEA URCHINS
- 5:00 Leslie Sturmer, John Scarpa, Chuck Adams, LeRoy Creswell**  
EVALUATION OF THE SUNRAY VENUS CLAM *Macrocallista nimbosa* FOR DIVERSIFICATION OF THE HARD CLAM CULTURE INDUSTRY IN FLORIDA

### **AQUACULTURE FOR THE RURAL POOR - AQUACULTURE WITHOUT FRONTIERS**

Tuesday, March 2 3:30 - 5:30 Royal Palm Salon 1

## **PATHOGENIC VIBRIOS IN SHELLFISH CULTURE**

Tuesday, March 2 3:30 - 5:30 Pacific Salon 7

Chairs: Ralph Elston, Gary Richards

- 3:30 Annie M. Cox**, Kathryn Markey, Tyler Ferrara, Marta Gomez-Chiarri  
INCIDENCE AND ECOLOGY OF *Vibrio parahaemolyticus* IN COASTAL PONDS VERSUS THE ESTUARINE ENVIRONMENT OF NARRAGANSETT BAY, RHODE ISLAND (USA)
- 3:45 Mark Strom**, Eric Landis, Rohinee Paranjpye  
POPULATION STRUCTURE ANALYSIS OF *Vibrio parahaemolyticus* IN THE U.S. PACIFIC NORTHWEST
- 4:00 Ryan Wood**, Cova Arias  
EVALUATION OF GLOBAL GENE EXPRESSION DURING COLD SHOCK IN THE HUMAN PATHOGEN *Vibrio vulnificus*
- 4:15 Gulnihal Ozbay**, Katherine Coyne, Benjamin Reining  
METHODS FOR EVALUATION OF *Vibrionaceae* IN THE DELAWARE INLAND BAYS AND RELATED CANALS
- 4:30 Matthew Lewis**, Scott Rikard, Cova Arias  
EVALUATION OF A FLOW-THROUGH DEPURATION SYSTEM TO ELIMINATE THE HUMAN PATHOGEN *Vibrio vulnificus* FROM THE EASTERN OYSTER *Crassostrea virginica*
- 4:45 Emma Timmins-Schiffman**, Sam White, Tim Green, Steven Roberts  
CHARACTERIZING THE RESPONSE OF *Vibrio tubiashii* TO CHANGES IN ENVIRONMENTAL CONDITIONS
- 5:00 Gary Richards**  
ISOLATION AND CHARACTERIZATION OF PHAGES AGAINST *Vibrio tubiashii* AND THEIR POTENTIAL USE IN REDUCING MORTALITIES IN SHELLFISH HATCHERIES
- 5:15 Ralph Elston**, Ildiko Polyak  
BIVALVE MOLLUSC HATCHERY AND SEED HEALTH MANAGEMENT UPDATE – 2010

## **FLATFISH**

Tuesday, March 2 3:30 - 5:30 Golden West Room

Chairs: Sungchul Bai, Luis Sampaio

- 3:30 Sungchul C. Bai**, Jun-Ho Lee  
REVIEW OF NUTRITIONAL RESEARCH IN OLIVE FLOUNDER *Paralichthys olivaceus*
- 4:00 Sang-Min Lee**, Minh Anh Pham  
SKIN PIGMENTATION OF JUVENILE OLIVE FLOUNDER *Paralichthys olivaceus* FED DIETS CONTAINING PAPRIKA EXTRACT
- 4:15 Christopher Peters**, Kevin Stuart, Mark Drawbridge  
ADVANCES IN LARVAL AND JUVENILE REARING OF CALIFORNIA HALIBUT *Paralichthys californicus*
- 4:30 GunHyun Park**, Gun-Hyun Park, Jun-Ho Lee, Seunghyung Lee, Young Chul Kim, Jun-Young Bae, Okorie E. Okorie, Mahmoud Mohseni, Namyong Hwang, Sungchul C. Bai  
EVALUATION OF DIETARY CADMIUM THRESHOLD LEVEL OF TOXICITY IN JUVENILE OLIVE FLOUNDER *Paralichthys olivaceus*
- 4:45 Cameron Lightbourne**, Shaun O'Loughlin, Chong Lee, Marta Gomez-Chiarri, David Bengtson  
REPLACEMENT OF FISH MEAL WITH SOYBEAN MEAL IN DIETS FOR SUMMER FLOUNDER *Paralichthys dentatus*: EFFECTS OF INCREASED SOYBEAN AND TAURINE LEVELS
- 5:00 Mahmoud Mohseni**, Gunhyun Park, Jun-Ho Lee, Seung huong Lee, Okorie E. Okorie, Jun Young Bae, Young Chul Kim, Nam yong Hwang, Craig Browdy, Farshad Shishechian, Sungchul C. Bai

EFFECTS OF DIFFERENT DIETARY COPPER LEVELS ON GROWTH AND NUTRITIONAL STATUS OF OLIVE FLOUNDER *Paralichthys olivaceus*

- 5:15 Jun-Ho Lee**, Gun Hyun Park, Seunghyung Lee, Young Chul Kim, Jun-Young Bae, Okorie E. Okorie, Mahmoud Mohseni, Namyong Hwang, Sungchul C. Bai  
THE EFFECTS OF DIETARY VITAMIN C ON THE OXIDATIVE STRESS OF JUVENILE OLIVE FLOUNDER *Paralichthys olivaceus* FED CADMIUM

**US MARINE SHRIMP FARMING PROGRAM**

Tuesday, March 2 3:30 - 5:30 Town & Country Room

Chair: Shaun Moss

- 3:30 Shaun Moss**  
THE U.S. MARINE SHRIMP FARMING PROGRAM: A 25-YEAR RETROSPECTION AND A GLIMPSE INTO THE FUTURE
- 3:45 Dustin Moss**, Clete Otoshi, Steve Arce, Carrie Holl, Robert Cantrell  
SHRIMP RESEARCH ACTIVITIES AT OCEANIC INSTITUTE
- 4:00 Abhineet Sheoran**  
CHARACTERIZATION OF SHRIMP HEMOCYTES BY MONOCLONAL ANTIBODIES
- 4:15 Donald Lightner**  
EMERGING SIGNIFICANT INFECTIOUS AND NONINFECTIOUS DISEASES OF FARMED SHRIMP
- 4:30 Jeffrey Lotz**  
HIGHLIGHTS OF SHRIMP RESEARCH: GULF COAST RESEARCH LABORATORY
- 4:45 Addison Lawrence**, Susmita Patnaik, Frank Castille, Warren Dominy  
SHRIMP RESEARCH FOR 2008 FROM TEXAS AGRILIFE RESEARCH MARICULTURE LABORATORY AT PORT ARANSAS, TEXAS, TEXAS A&M SYSTEM
- 5:00 Tzachi Samocha**, Eudes Correia, Josh Wilkenfeld, Timothy Morris, Liuzhi Wei  
FROM FLOW THROUGH TO ZERO EXCHANGE – A SUMMARY OF THE INTENSIVE NURSERY AND GROW-OUT STUDIES WITH THE PACIFIC WHITE SHRIMP AT THE TEXAS AGRILIFE RESEARCH MARICULTURE LAB AT FLOUR BLUFF, CORPUS CHRISTI, TEXAS
- 5:15 John Leffler**, Jesus Venero, Andrew Ray, Beth Lewis, Alisha Lawson, Jason Haveman, Craig Browdy  
MANAGING THE COMPOSITION OF BIOFLOC COMMUNITIES TO NUTRITIONALLY SUPPLEMENT PLANT-BASED DIETS FOR PACIFIC WHITE SHRIMP *Litopenaeus vannamei*
- 5:30 Ramaraj Boopathy**, Dhriti Roy, Quenton Fontenot  
CARBON LIMITATION DURING DENITRIFICATION PROCESS IN A SEQUENCING BATCH REACTOR TREATING SHRIMP AQUACULTURE WASTEWATER

**WEDNESDAY, MARCH 3**

**AN UPDATE ON THE JSA STRATEGIC PLAN FOR SCIENCE AND TECHNOLOGY**

Wednesday, March 3 8:30 - 10:00 Royal Palm Salon 3

Chairs: Michael Rubino, Jeff Silverstein

Science and Technology Task Force of the Joint Subcommittee on Aquaculture.

The JSA Science and Technology Strategic Plan drafted in 1994, is undergoing a revision and refocusing. At this session, the Science and Technology Task Force goals, activities to revise the Science and Technology Strategic Plan, and an outline of the current revision will be presented. Following the short presentation there will be an opportunity to ask questions and discuss the strategic plan.

**PRE-HARVEST IMPACTS ON POST-HARVEST QUALITY**

Wednesday, March 3 8:30 - 10:00 Town & Country Room  
Chair: Michael Nielson

- 8:30 Hans-Christian Ingerslev**, Michael Engelbrecht Nielsen  
*Moritella viscosus* INFECTED ATLANTIC SALMON *Salmo salar* EXPRESS GENES DURING INFECTION ASSOCIATED WITH QUALITY CHANGES AFTER RECOVERY
- 8:45 Tune Wulff**, Alfred Jokumsen, Flemming Jessen  
PRE-HARVEST STRESS INDUCED CHANGES ON RAINBOW TROUT PROTEOME
- 9:00 Stina Frosch**, Bjørn Skovlund Dissing, Michael Engelbrecht Nielsen  
EFFECT OF ASTAXANTHIN CONCENTRATION AND ORIGIN ON COLOR SETTING IN DANISH TROUT AQUACULTURE MEASURED BY MULTI-SPECTRAL VISION ANALYSIS
- 9:15 Caroline Baron**, Grethe Hyldig, Charlotte Jacobsen  
DOES FEED COMPOSITION AFFECT OXIDATION OF RAINBOW TROUT *Oncorhynchus mykiss* DURING FROZEN STORAGE?
- 9:30 Grethe Hyldig**, Ditte Green-Petersen  
EFFECTS OF FARMING CONDITIONS, FEED AND HANDLING OF TROUT ON SENSORY QUALITY

### SHELLFISH SAFETY AND WATER QUALITY

Wednesday, March 3 8:30 - 10:00 Royal Palm Salon 6  
Chair: Dorothy-Jean McCoubrey

- 8:30 Gary Richards**  
EFFORTS TO DEVELOP A CELL CULTURE PROPAGATION SYSTEM FOR HUMAN NOROVIRUS
- 8:45 Rohinee Paranjpye**, William Nilsson, Benjamin Sandford, Mark Strom  
THE ENIGMA OF *Vibrio parahaemolyticus* ILLNESSES IN THE PACIFIC NORTHWEST
- 9:00 Dorothy L. Leonard**  
BALANCING THE FOOD SAFETY MESSAGE
- 9:15 Dorothy-Jean McCoubrey**  
SHELLFISHERIES MANAGEMENT, SCIENCE AND CONSUMER PROTECTION

### MACROBRACHIUM CONTRIBUTED

Wednesday, March 3 8:30 - 12:00 Royal Palm Salon 1  
Chair: Loy D'Abramo

- 8:30 Jose Carlos Gastelú**, Jaqueline M. Oliveira, Luis Otavio Brito, Alfredo Oliveira, Maria da Gloria B. S. Moreira  
VARIATION OF RESPIRATORY RATES BY TEMPERATURES EFFECT TO MOLTING CYCLE AND OVARIAN MATURATION AND ACTION OF MECHANICAL AND CHEMICAL STRESS IN FEMALES OF PALAEMONIDAE PRAWN *Macrobrachium acanthurus* (WIEGMANN, 1836)
- 8:45 Jose Carlos Gastelú**, Jaqueline M. Oliveira, Luis Otavio Brito, Alfredo Olivera, Alfredo Olivera, Maria da Gloria B. S. Moreira  
EFFECT OF TEMPERATURE AND FOOD PROTEIN AND LIPID IN STAGES OF OVARIAN MATURATION AND STAGE OF CHANGES *Macrobrachium acanthurus* (WIEGMANN, 1836)
- 9:00 Adaba Tonye Ibim**, Nene A. Jamabo  
COMPARATIVE STUDIES ON ECOLOGICAL AND CULTURE SALINITY TOLERANCE OF FIVE INDIGENOUS *Macrobrachium* SPECIES IN THE RIVERS STATE, NIGER DELTA AREA, NIGERIA
- 9:15 Jiraporn Rojtinnakorn**, Jongkol Promya, Srikajana Klairuang  
THAI HERB EXTRACTS SUBSTITUTE ANTIBIOTICS IN *Macrobrachium rosenbergii* CULTURE
- 9:30 Oluwapelumi Odeyemi**, Shawn D. Coyle, Kyle J. Schneider, Leigh Anne Bright, Boris Gomelsky, James H. Tidwell

COMPARISON OF THREE GENETIC STRAINS OF FRESHWATER PRAWN *Macrobrachium rosenbergii*  
UNDER TWO MANAGEMENT TECHNOLOGIES

- 9:45 Louis D'Abramo**  
FEEDING STRATEGIES FOR LOW INPUT CULTURE OF FRESHWATER PRAWNS *Macrobrachium rosenbergii*  
IN EARTHEN PONDS
- 10:00 BREAK**
- 10:30 Maria Lourdes Cuvin-Aralar**, Alma Lazartigue, Emiliano Aralar  
INFLUENCE OF NET MESH SIZE ON THE PERFORMANCE OF THE GIANT FRESHWATER PRAWN  
*Macrobrachium rosenbergii* CULTURED IN LAKE-BASED CAGES
- 10:45 Methil N. Kutty**, C. Mohanakumaran Nair, N. N. Nambudiri, Sathish Prasad, Michael B. New  
ENHANCED FISHERIES OF FRESHWATER PRAWNS – STATUS AND POTENTIAL
- 11:00 Foong Choong Choong**, Beng Chu Kua, A. Bristow Glenn  
*Lagenophrys* sp. (STEIN, 1852) ON WILD GIANT FRESHWATER PRAWN *Macrobrachium rosenbergii* (DE  
MAN, 1879)
- 11:15 Hazreen Nita Mohd Khalid**, Beng Chu Kua, Foong Choong Choong, Rofina Yasmin Othman, Subha Bhasu  
SCREENING OF INFECTIOUS HYPODERMAL AND HAEMATOPOIETIC NECROSIS VIRUS (IHHNV) IN WILD  
STOCK OF FRESHWATER PRAWN *Macrobrachium rosenbergii* IN THREE STATES OF MALAYSIA (PERAK,  
NEGERI SEMBILAN AND SARAWAK)
- 11:30 K. R. Salin**, Jung Hyungtaek, David Hurwood, C. Mohanakumaran Nair, G. Shyla, Peter Mather  
THE GENETIC STRUCTURE OF WILD AND CULTURED GIANT FRESHWATER PRAWN *Macrobrachium*  
*rosenbergii* STOCKS IN INDIA: EVIDENCE FOR MULTIPLE LINEAGES AND PAST INTRODUCTIONS OF  
EXOTIC GENOTYPES
- 11:45 Javad Saiadfar**, Abbasali Zamini, Habib Vahabzadeh, Seyed Fakhredin Mir Hashemi, Abbas Hamrang Omshi  
THE BEST DENSITY OF CULTURE OF FRESHWATER SHRIMP LARVA ACCORDING TO SURVIVAL LARVA

**BIOENERGY AND BIOPRODUCTS FROM ALGAL CULTURE**

Wednesday, March 3 8:30 - 12:00 Sunrise Room  
Chair: Dave Brune

- 8:30 David E. Brune**  
ALGAE AND AQUACULTURE
- 9:00 Nigel W. T. Quinn**, David Krauth  
RESOURCE ANALYSIS OF ALGAE BIOFUEL PRODUCTION POTENTIAL IN CALIFORNIA
- 9:30 John Benemann**  
PHOTOBIOREACTORS VS. PONDS FOR MICROALGAE BIOMASS PRODUCTION
- 10:00 BREAK**
- 10:30 Gregory Schwartz**, James Carlberg, Jon Van Olst, Mike Massingill, James Levin  
DEVELOPMENT OF RENEWABLE MICROALGAE FEEDSTOCK FOR THE PRODUCTION OF BIODIESEL,  
HIGH-GRADE PROTEIN, AND POWER CO-GENERATION
- 11:00 Tryg Lundquist**  
CO<sub>2</sub> ADDITION TO WASTEWATER TREATMENT PONDS FOR IMPROVED TREATMENT PERFORMANCE  
AND ALGAE PRODUCTION
- 11:30 Ben Wu**  
INTEGRATED MARICULTURE FOR PRODUCTION OF ALGAE BIOFUELS AND FOOD
- 12:00 Junda Lin**, Bert Vick, Dale Snyder  
MICROALGAE BIOFUEL: GREEN REVOLUTION IN BLUE WATER

**12:15 Maria Teresa Gutierrez-Wing**, Athens Silaban, Rong Bai, Kelly A. Rusch  
EFFECT OF CULTURE CONDITIONS ON LIPID PRODUCTION OF A LOUISIANA NATIVE MICROALGAE STRAIN

### **ACIDIFICATION & SHELLFISH**

Wednesday, March 3 8:30 - 12:00 Pacific Salon 7

Chair: Tessa Getchis

- 8:30 Anne Cohen**, Daniel McCorkle, Melissa Pinard, Emilia Sogin, Richard Kraus  
IMPACT OF OCEAN ACIDIFICATION ON SURVIVAL AND EARLY SHELL DEVELOPMENT BY THE BAY SCALLOP *Argopectin irradians*
- 8:45 Christopher Gobler**, Stephanie Talmage  
THE EFFECTS OF ELEVATED CARBON DIOXIDE CONCENTRATIONS ON THE METAMORPHOSIS, SIZE, AND SURVIVAL OF LARVAL HARD CLAMS *Mercenaria mercenaria*, BAY SCALLOPS *Argopecten irradians*, AND EASTERN OYSTERS *Crassostrea virginica*
- 9:00 Sara Lombardi**, Kennedy Paynter  
HEMOLYMPH pH OF *Crassostrea virginica* AND *Crassostrea ariakensis* AFTER ANOXIC EXPOSURE
- 9:15 Sarah Cooley**, Scott Doney  
MODELING OCEAN ACIDIFICATION'S POTENTIAL TO IMPACT COMMERCIAL MOLLUSK AQUACULTURE AT REGIONAL SCALES
- 9:30 Whitman Miller**, Amanda Reynolds, Cristina Sobrino, Gerhardt Riedel  
SHELLFISH FACE UNCERTAIN FUTURE IN HIGH CO<sub>2</sub> WORLD: INFLUENCE OF ACIDIFICATION ON OYSTER LARVAE CALCIFICATION AND GROWTH IN ESTUARIES
- 9:45 Gary Wikfors**, Carsten Krome, Shannon Meseck  
ABILITY OF OYSTER HEMOCYTES, CELLS INVOLVED DIRECTLY IN SHELL CALCIFICATION, TO MAINTAIN INTERNAL pH AND CALCIUM UNDER ACIDIC CONDITIONS
- 10:00 BREAK**
- 10:30 Daniel Cheney**  
WATER QUALITY AND SHELLFISH RECRUITMENT: UPDATE ON THE U.S. WEST COAST OYSTER SEED EMERGENCY
- 10:45 Pauline Ross**, Laura Parker, Wayne O'Connor, David Raftos  
OYSTERS AND OCEAN ACIDIFICATION: IMPACTS AND ADAPTION

### **AQUACULTURE 101**

Wednesday, March 3 8:30 - 12:00 Royal Palm Salon 2

Chair: Steeve Pomerleau

- 8:30 Steeve Pomerleau**  
PUTTING TOGETHER A BUSINESS PLAN
- 9:00 Terry Hanson**  
HOW TO PRICE YOUR PRODUCTS
- 9:30 Bruce Vizueta**  
TARGETING YOUR BUYERS AND PROMOTING YOUR PRODUCT(S)
- 10:00 BREAK**
- 10:30 Darlene Knipe**  
MARKET MAKERS: CONNECTING BUYERS AND SELLERS ON THE WEB

**11:00 Kathleen Hartman**  
HEALTHY FISH MEANS HEALTHY PROFITS

**11:30 Laura St. Pierre**  
DISSOLVED OXYGEN MEASUREMENT TECHNOLOGY

## **GEODUCKS**

Wednesday, March 3 8:30 - 4:30 Royal Palm Salon 5  
Chairs: Joth Davis, Kristina Straus, Brent Vadopalas

**8:30 Brent Vadopalas, Jonathan Davis**  
A 15 YEAR EVOLUTION OF GEODUCK *Panopea generosa* AQUACULTURE IN WASHINGTON STATE

**9:00 Roger Newell, Jeffrey Cornwell, Mike Owens**  
THE INFLUENCE OF GEODUCK CLAM CULTURE AND HARVEST IN PUGET SOUND ON SEDIMENT NUTRIENT BIOGEOCHEMISTRY

**9:15 Christopher Pearce**  
ASSESSING POTENTIAL HABITAT IMPACTS OF GEODUCK CLAM *Panopea abrupta* AQUACULTURE AND HARVESTING IN BRITISH COLUMBIA, CANADA

**9:30 Robert Marshall, Christopher Pearce, Scott McKinley**  
PHYSIOLOGICAL RESPONSES OF GEODUCK CLAMS *Panopea abrupta* TO LOW SALINITY CONDITIONS

**9:45 Claudia Farfán, Omar Mendoza Porras, Brent Vadopalas, José Antonio Maasó Rojas, Miguel Ángel Del Río Portilla**  
GENETIC VARIABILITY OF THE CLAMS *Panopea generosa* AND *P. globosa* IN BAJA CALIFORNIA.

**10:00 BREAK**

**10:30 Ignacio Leyva**  
MORPHOMETRICS AND PHYLOGENETIC ANALYSIS IN GEODUCK CLAM *Panopea* sp. FROM MEXICAN NORTHWEST

**10:45 Timothy Essington, Aaron Galloway, P. Sean McDonald, David Armstrong, Joth Davis, Greg Jensen, Glenn VanBlaricom**  
ESTIMATING FILTRATION CAPACITY OF SUBTIDAL GEODUCKS IN HOOD CANAL, WASHINGTON

**11:00 Eric Ward, Brent Vadopalas**  
ALLOWABLE CONTRIBUTIONS OF GEODUCK AQUACULTURE IN A METAPOPOPULATION CONTEXT

**11:15 Carolyn Friedman, Adriana Santacruz, Brent Vadopalas**  
ENDOSYMBIOTIC, COMMENSAL, AND PARASITIC ORGANISMS ASSOCIATED WITH WILD GEODUCK CLAMS *Panopea generosa* (GOULD 1850)

**11:30 Kristina Straus, Brent Vadopalas, Jonathan Davis, Carolyn Friedman**  
PAST, PRESENT, AND FUTURE GENETIC VARIATION IN CULTURED AND WILD GEODUCK CLAMS *Panopea generosa*

**11:45 Glenn R. VanBlaricom, P. Sean McDonald, Jennifer L. Price, Aaron W. E. Galloway, Jeffrey R. Cordell, Megan N. Dethier, Jason D. Toft, Timothy E. Essington, David A. Armstrong**  
CHALLENGES TO THE EVALUATION OF ECOLOGICAL EFFECTS OF BIVALVE AQUACULTURE: SOCIAL AND ECONOMIC CONSTRAINTS, AND CONTRADICTIONARY INCENTIVES FROM ECOLOGICAL AND STATISTICAL THEORY

**12:00 LUNCH**

**1:30 Aaron Galloway, Sean McDonald, Frank Stevick, Megan Dethier, Jeff Cordell, Jason Toft, Jenny Price, Tim Essington, David Armstrong, Glenn VanBlaricom**  
MOBILE MACROFAUNA USE OF INTERTIDAL GEODUCK AQUACULTURE STRUCTURE FIELDS IN PUGET SOUND, WASHINGTON

- 1:45 P. Sean McDonald**, Kristin E. Larson, Kirstin K. Holsman, Aaron W. E. Galloway, Jennifer L. Price, Megan N. Dethier, Jeffrey R. Cordell, Timothy E. Essington, David A. Armstrong, Glenn R. VanBlaricom  
A FISHEYE PERSPECTIVE ON HABITAT COMPLEXITY: DO STRUCTURES ASSOCIATED WITH INTERTIDAL GEODUCK AQUACULTURE AFFECT TROPHIC DYNAMICS OF NEKTON IN UNIQUE WAYS?
- 2:00 Jennifer Price**, P. Sean McDonald, Jeffrey R. Cordell, Timothy E. Essington, Aaron W. E. Galloway, Megan N. Dethier, David A. Armstrong, Glenn R. VanBlaricom  
GEODUCK AQUACULTURE HARVEST PRACTICES IN SOUTHERN PUGET SOUND, WASHINGTON: ASSESSING PATTERNS OF IMPACT AND RECOVERY IN BENTHIC INFAUNAL COMMUNITIES
- 2:15 Andrew D. Suhrbier**, Daniel P. Cheney, Mary Middleton  
ALTERNATIVE GEODUCK *Panopea abrupta* PREDATOR PROTECTION METHODS IN SOUTH PUGET SOUND: EFFICACY AND ENVIRONMENTAL INTERACTIONS
- 2:30 Jonathan Davis**  
ESTIMATES OF BIODEPOSIT PRODUCTION AND FEEDING CAPACITY IN GEODUCK CLAMS UNDER LABORATORY AND FIELD CONDITIONS
- 2:45 Zaul Garcia-Esquivel**, Enrique Valenzuela-Espinoza, Jose C. Garduño, Mauricio I. Buitimea, Javier Garcia  
LABORATORY BROODSTOCK CONDITIONING OF THE GEODUCK CLAM *Panopea globosa* FROM THE GULF OF CALIFORNIA

## OFFSHORE AQUACULTURE

Wednesday, March 3 8:30 - 4:30 Golden West Room

Chair: Richard Langan

- 8:30 Neil Anthony Sims**  
CAN THE BLUE REVOLUTION EFFECT A TRUE REVOLUTION? THE OCEAN STEWARDS, AND THE BATTLE OF IDEAS IN OPEN OCEAN MARICULTURE
- 9:00 Paul Holthus**  
THE AQUACULTURE INDUSTRY AND THE NEW INTERNATIONAL OCEAN BUSINESS ALLIANCE FOR SUSTAINABLE SEAS
- 9:15 Susan Bunsick**, Jessica Beck  
THE DEVELOPMENT OF A NEW NATIONAL POLICY FOR MARINE AQUACULTURE, INCLUDING FEDERAL WATERS
- 9:30 Chris Langdon**  
CHALLENGES AND OPPORTUNITIES OF OFFSHORE AQUACULTURE IN THE PACIFIC NORTHWEST
- 9:45 Richard C. Karney**, Scott Lindell, Bill Slikes  
THE ORDEAL OF PERMITTING OFFSHORE MUSSEL CULTURE SITES IN MASSACHUSETTS COASTAL WATERS – ANOTHER REASON WHY WE IMPORT 80% OF OUR SEAFOOD
- 10:00 BREAK**
- 10:30 Arne Fredheim**  
TECHNOLOGICAL CHALLENGES AND OPPORTUNITIES IN MEETING FUTURE INDUSTRY REQUIREMENTS
- 10:45 Alexandra Neyts**, Leif Magne Sunde  
PAN-EUROPEAN RESEARCH INFRASTRUCTURE FOR AQUACULTURE ENGINEERING (ACE) AS A TOOL TO OPEN THE OCEANS FOR AQUACULTURE
- 11:00 Daniel Benetti**, Brian O'Hanlon, José A. Rivera, Aaron W. Welch, Christopher Maxey, Refik Orhun  
GROWTH RATES OF COBIA *Rachycentron canadum* CULTURED IN OPEN OCEAN SUBMERGED CAGES IN THE CARIBBEAN

- 11:15 Yechiam Shapira**  
GROWING SEA BREAM *Sparus aurata* IN ROUGH MARINE CONDITIONS AT OFFSHORE FARM IN THE EAST MEDITERRANEAN, BASED ON SUBflex TECHNOLOGY
- 11:30 Thiago Soligo**, Edd Brooks, Annabelle Oronti, Andy Danylchuk, Geoff Walton, Chris Maxey, Chelsea Stephen, Robert Naeny, Daniel Benetti  
EGG TO MARKET: PROOF OF CONCEPT FOR COBIA *Rachycentron canadum* PRODUCTION IN THE BAHAMAS USING SUSTAINABLE TECHNOLOGIES
- 11:45 Steve Page**, Gustavo Valdez  
OPEN OCEAN SHRIMP CULTIVATION
- 12:00 LUNCH**
- 1:30 Ole Jacob Broch**, Ingrid H. Ellingsen, Dag Slagstad, Kjell Inge Reitan, Yngvar Olsen  
IMPACTS OF LARGE SCALE INTEGRATED KELP CULTIVATION ON NATURAL PRIMARY PRODUCTION
- 1:45 Michael Chambers**, J DeCew, B. Celikkol, M. Yigit, M. Cremer  
OCAT – A SMALL SCALE, SUBMERSIBLE FISH CAGE FOR DEVELOPING ECONOMIES
- 2:00 Neil Anthony Sims**, Joseph Laughlin  
A COMPARISON OF OPERATING EFFICIENCIES BETWEEN SURFACE AND SUBMERGED NET PEN SYSTEMS IN AN OPEN OCEAN MARICULTURE SITE OFF KONA, HAWAII
- 2:15 Richard Langan**, Raymond Grizzle, Steven Zawacky  
THE EFFECTIVENESS OF THREE NON-TOXIC ANTIFOULING TREATMENTS ON SEA CAGE NETTING MATERIALS
- 2:30 Øyvind J. Korsøen**, Frode Oppedal, Tim Dempster, Per G. Fjellidal, Tore Kristiansen  
THE BIOLOGICAL CRITERIA FOR SUBMERGED PRODUCTION OF PHYSOSTOMOUS FISH – EXEMPLIFIED BY ATLANTIC SALMON *Salmo salar* L.
- 2:45 Scott Lindell**, Greg Mataronas, Michael Marchetti, Scott Stephens, Rick Karney, Bill Silkes, John Murt, Kara Maloney, Janice Simmons, Richard Langan  
PILOT-SCALE COMMERCIAL OFFSHORE MUSSEL FARMING IN SOUTHERN NEW ENGLAND
- 3:00 Michael Shane**, Mark Drawbridge  
A PRACTICAL METHOD FOR ENVIRONMENTAL ASSESSMENT OF CAGE FARMING IN SOUTHERN CALIFORNIA
- 3:15 James Irish**, David Fredriksson, Dale Kiefer, Jack Rensel, Frank O'Brien  
ENVIRONMENTAL OBSERVATIONS IN SUPPORT OF PHYSICAL AND BIOLOGICAL MODELING OF AQUACULTURE SITES
- 3:30 David Fredriksson**, James Irish, Dale Kiefer, Jack Rensel, Frank O'Brien  
A CIRCULATION MODEL TO INVESTIGATE THE MOVEMENT OF WASTES FROM AN OPEN OCEAN AQUACULTURE SITE
- 3:45 Jack Rensel**, Dale Kiefer, Frank O'Brien, Michael Rust, Thomas Scott, Cameron Carter  
BIOENERGETICS OF COBIA AND MOI: APPLICATIONS TO OFFSHORE CULTURE AND MODELING
- 4:00 Dale Kiefer**, David Fredriksson, James Irish, Jack Rensel, Frank O'Brien  
MODELING OFFSHORE FISH FARMS IN NEW HAMPSHIRE AND CALIFORNIA

## PHYSIOLOGICAL INSIGHTS TOWARDS IMPROVING FISH CULTURE II

Wednesday, March 3 8:30 - 4:30 California  
Chairs: Kurt Gamperi, B. Small, M. Rise, Curry Woods

- 8:30 Mark Sheridan**  
PERIPHERAL REGULATION OF THE GROWTH HORMONE (GH)-INSULIN-LIKE GROWTH FACTOR-1 (IGF-1) SYSTEM IN FISH
- 9:00 Beth Cleveland**, Gregory Weber  
NUTRIENT AND HORMONAL REGULATION OF PROTEOLYSIS THROUGH FOXO SIGNALING PATHWAYS IN RAINBOW TROUT
- 9:15 Eugene Won**, Matt Picha, Christina Strom, Russell Borski  
ENDOCRINE DYNAMICS OF METABOLIC AND GROWTH-REGULATORY HORMONES DURING COMPENSATORY GROWTH IN A TELEOST MODEL, THE HYBRID STRIPED BASS
- 9:30 Alejandro Buentello**, Heath Gasier, Stephen Previs, Camilo Pohlenz, James Fluckey, Delbert Gatlin  
A NOVEL APPROACH FOR ASSESSING PROTEIN SYNTHESIS IN CHANNEL CATFISH *Ictalurus punctatus*
- 9:45 Brian R. Beckman**, J. Adam Luckenbach, David C. Metzger, Munetaka Shimizu, Jon T. Dickey  
ENDOCRINE CONTROL OF GROWTH IN COHO SALMON: VALIDATION OF A MULTIPLEX GENE EXPRESSION ASSAY AND QUANTIFICATION OF RELATIONS BETWEEN MESSENGER RNA LEVELS AND PROTEINS DURING FEEDING AND FASTING CONDITIONS
- 10:00 BREAK**
- 10:30 Peggy Biga**, Elizabeth Braschayko, Nicholas Galt  
A NOVEL DOWNSTREAM TARGET OF MYOSTATIN AS A FOCUS FOR UNDERSTANDING THE INTERACTION BETWEEN GROWTH AND IMMUNITY: AKIRIN
- 10:45 Ken Overturf**  
IDENTIFICATION OF NUTRIENT FACTORS AFFECTING METABOLISM AND MUSCLE ACCRETION
- 11:00 Nicholas Galt**, Ben Meyer, Peggy Biga  
THE EFFECTS OF HIGH-FAT DIETARY INTAKE ON THE MUSCLE GROWTH AXIS IN RAINBOW TROUT
- 11:15 Barry N. Madison**, John W. Heath, Daniel D. Heath, Nicholas J. Bernier  
EFFECTS OF BREEDING STRATEGY AND EARLY-REARING ENVIRONMENT ON THE GROWTH PERFORMANCE AND STRESS RESPONSIVENESS OF JUVENILE CHINOOK SALMON *Oncorhynchus tshawytscha*
- 11:30 Helene Volkoff**  
THE ENDOCRINE REGULATION OF FEEDING IN FISH MODELS: CURRENT VIEW AND POTENTIAL APPLICATIONS IN AQUACULTURE
- 11:45 Sarah M. Tuziak**, Helene Volkoff  
UNRAVELLING THE ROLE OF MELANIN-CONCENTRATING HORMONE (MCH) AND GONADOTROPIN-RELEASING HORMONE (GNRH) IN APPETITE REGULATION AND REPRODUCTION IN WINTER FLOUNDER *Pleuronectes americanus*
- 12:00 Leah Hoskins**, Helene Volkoff  
DAILY PATTERNS OF APPETITE-REGULATING NEUROPEPTIDES IN FISH: A COMPARISON BETWEEN GOLDFISH *Carassius auratus* AND ATLANTIC COD *Gadus morhua*
- 12:15 LUNCH**
- Health and Disease – M. Rise
- 1:30 Chris Secombes**  
CYTOKINES AND DISEASE RESISTANCE IN FISH
- 2:00 Ian Bricknell**, Campbell Pert  
DO ALL SEA LICE COME FROM FISH FARMS?
- 2:15 Delbert Gatlin**, J. Alejandro Buentello  
NUTRITIONAL INFLUENCES ON FISH HEALTH

- 2:30 Brian Peterson**, Natha Booth, Frederic Barrows, Bruce Manning  
EFFECTS OF MANNANOLIGOSACCHARIDES ON GROWTH AND IMMUNE FUNCTION IN CHANNEL CATFISH CHALLENGED WITH *Edwardsiella ictaluri*
- 2:45 Gregory Wiens**, Roger Vallejo, Timothy Leeds, Yniv Palti, Jason Evenhuis, Timothy Welch, Caird Rexroad III  
INHERITANCE OF RAINBOW TROUT *Oncorhynchus mykiss* SPLEEN SIZE AND CORRELATION WITH BACTERIAL COLD WATER DISEASE RESISTANCE
- 3:00 Linda D. Rhodes**, Steviebrooke Wallis, S. Ellen Demlow  
USING PATHOGEN GENETICS AND HOST RESPONSE IN DEVELOPING VACCINES AGAINST BACTERIAL KIDNEY DISEASE OF SALMONIDS
- 3:15 Brian Dixon**, Suchita Nath, Juan Pérez-Casanova, Stewart Johnson, Kurt Gamperl  
REGULATION OF IMMUNE FUNCTION AT THE UPPER AND LOWER END OF THE PHYSIOLOGICAL TEMPERATURE RANGE
- 3:30 Leandro Becker**, John Heath, Daniel Heath, Brian Dixon  
ENVIRONMENTAL AND GENETIC EFFECTS ON THE IMMUNE PERFORMANCE OF FARMED CHINOOK SALMON *Oncorhynchus tshawytscha*
- 3:45 Frederick Goetz**, Simon MacKenzie  
NEW INSIGHTS INTO THE RECOGNITION OF GRAM NEGATIVE LIPOPOLYSACCHARIDES BY TROUT MACROPHAGES
- 4:00 Matthew Rise**, Marije Booman, Charles Feng, Tiago Hori, Jennifer Hall, Marlies Rise, Kurt Gamperl, Sophie Hubert, Jennifer Kimball, Tudor Borza, Sharen Bowman, Stewart Johnson  
CHARACTERIZING FISH IMMUNOMES: TARGETED GENE DISCOVERY AND MICROARRAY-BASED STUDIES OF ATLANTIC COD RESPONSES TO PATHOGENS

## **CULTURED AQUATIC ANIMALS: USES AND IMPLICATIONS FOR STOCK ENHANCEMENT, FISHERIES MANAGEMENT, AND SPECIES DIVERSITY**

Wednesday, March 3 8:30 - 4:30 Pacific Salon 3

Chairs: Ken Leber, Kim Scribner, Jesse Trushenski, Max Mayeaux, Michael Denson

Sponsored by: AFS Fish Culture Section, AFS Genetics Section and U.S. Aquaculture Society

- 8:30 H. Lee Blankenship**, Andrew Appleby, John Barr, Don Campton, Ken Currens, Trevor Evelyn, David Fast, Tom Flagg, Conrad Mahnken, Lars Moberg, Steve Smith  
HATCHERY REFORM IN THE PACIFIC NORTHWEST: CONCEPTS AND IMPLEMENTATION
- 8:45 Erick Sturm**, R. Bruce MacFarlane, J. David Streig  
USING A CAPTIVE BROODSTOCK PROGRAM TO HELP RESTORE THE ENDANGERED COHO SALMON *Oncorhynchus kisutch* RUN IN SCOTT CREEK, SANTA CRUZ COUNTY, CALIFORNIA: RESULTS FROM THE FIRST FIVE YEARS
- 9:00 Yniv Palti**, Roger Vallejo, Nathan Johnson, Caird Rexroad  
GENETIC ASSESSMENT TOOLS FOR EVALUATING BROODSTOCK POPULATION STRUCTURE AND PEDIGREE RECONSTRUCTION IN RAINBOW TROUT
- 9:15 Stewart Grant**  
HOW IMPORTANT IS THE RYMAN-LAIKRE EFFECT IN THE RESTORATION AND ENHANCEMENT OF MARINE INVERTEBRATE POPULATIONS?
- 9:30 Christopher Habicht**, Harold Geiger, James Jasper, Ronald Josephson, Robert Zorich  
MINING THE CODED-WIRE-TAG DATABASE: STRAYING OF HATCHERY-PRODUCED CHINOOK SALMON FROM SOUTHEAST ALASKA WAS INFLUENCED BY RELEASE SITE AND METHOD, AND PROXIMITY TO WILD SPAWNING SYSTEMS
- 9:45 Barry Berejikian**, Donald Van Doornik, Robert Endicott, Timothy Hoffnagle, Eugene Tezak, Megan Moore, Jeffery Atkins  
GUIDANCE FOR USE OF JACK CHINOOK SALMON *Oncorhynchus tshawytscha* MALES IN HATCHERY BROODSTOCKS BASED ON EXPERIMENTAL EVIDENCE FOR SEXUAL SELECTION

**10:00 BREAK**

- 10:30 Kristen Gruenthal**, Russ Vetter, Mark Drawbridge  
GENETIC DETERMINATION OF GROUP SPAWNING DYNAMICS IN A HATCHERY AND ITS APPLICATION TO THE REPLENISHMENT OF WHITE SEABASS *Atractoscion nobilis* OFF SOUTHERN CALIFORNIA
- 10:45 Marie Antonette Juinio-Meñez**, Glycinea de Peralta, Ronald Olavides, Marie Antonette Paña, Tirso Catbagan, Christine Mae Edullantes  
FRAMEWORK AND MANAGEMENT OF COMMUNAL SANDFISH *Holothuria scabra* SEA RANCHING IN THE PHILIPPINES
- 11:00 Kenneth Leber**, Kai Lorenzen, H. Lee Blankenship  
A RESPONSIBLE APPROACH TO MARINE STOCK ENHANCEMENT: AN UPDATE
- 11:15 Jonathan Lee**, Barry Berejikian  
A TEST FOR UNINTENTIONAL SELECTION ON FEEDING AND RISK-TAKING BEHAVIORS IN A BROWN ROCKFISH HATCHERY
- 11:30 Reg Blaylock**, Lauren Littleton, Jonathan Wagner, Jeffrey Lotz, Chet Rakocinski  
OPTIMIZATION OF SPOTTED SEATROUT *Cynoscion nebulosus* STOCK ENHANCEMENT IN MISSISSIPPI: TRANSITIONING FROM THE HATCHERY TO THE FIELD
- 11:45 Kai Lorenzen**, Ken Leber, Luiz Barbieri, Juliane Struve  
ASSESSING THE POTENTIAL CONTRIBUTION OF COMMON SNOOK *Centropomus undecimalis* STOCK ENHANCEMENT TO FISHERIES MANAGEMENT GOALS
- 12:00 Michael Nystrom**, Kevan L. Main, Thomas Losordo  
DEVELOPMENT AND EVALUATION OF A ZERO-DISCHARGE FINGERLING PRODUCTION SYSTEM TO PRODUCE RED DRUM *Sciaenops ocellatus* FOR STOCK ENHANCEMENT
- 12:15 LUNCH**
- 1:30 Carlin McAuley**, Marla Chaney, Greg Baesler  
PEEKING AT GONADS: THE USE OF ULTRASOUND TECHNOLOGY IN A THREATENED SNAKE RIVER SPRING CHINOOK SALMON *Oncorhynchus tshawytscha* CAPTIVE BROODSTOCK PROGRAM
- 1:45 Michael Shane**, Susana Hervas, Kai Lorenzen, Mark Drawbridge  
QUANTITATIVE ASSESSMENT OF A WHITE SEABASS *Atractoscion nobilis* STOCK ENHANCEMENT PROGRAM AND ITS IMPLEMENTATION IN RELEASE PROTOCOLS
- 2:00 Michelle L. Walsh**, Elizabeth A. Fairchild, Nathan Rennels, W. Huntting Howell, Renee Mercaldo-Allen, Catherine Kuropat  
REARING DIETS THAT OPTIMIZE FEEDING SUCCESS IN THE WILD: ANALYSES OF DIET, GROWTH, SURVIVAL, AND RNA/DNA CONDITION
- 2:15 Kim Scribner**  
INTEGRATION OF GENETIC TOOLS AND THEORY IN MANAGEMENT AND MONITORING OF CONSERVATION HATCHERY PROGRAMS
- 2:30 Paul Wills**, Timothy Pfeiffer, Christopher Robinson, Richard Baptiste  
OPTIMIZATION OF FEED RATES AND REARING DENSITIES FOR PRODUCTION OF ADVANCED JUVENILE RED DRUM IN RECIRCULATING AQUACULTURE SYSTEMS FOR STOCK ENHANCEMENT
- 2:45 Elizabeth Fairchild**  
WORKING WITH MUNICIPALITIES TO INITIATE STOCKING ACTIVITIES: WINTER FLOUNDER IN THE NORTHEAST U.S.
- 3:00 Michael Denson**, Tanya Darden, Joy Gerhard  
THE CONTRIBUTION OF STOCKED RED DRUM TO THE REPRODUCTIVE POOL: IMPLICATIONS FOR FISHERIES MANAGEMENT

- 3:15 Aaron W. Aunins**, John M. Epifanio, Bonnie L. Brown  
GENETIC EVALUATION OF AMERICAN SHAD *Alosa sapidissima* RESTORATION SUCCESS IN JAMES RIVER, VIRGINIA
- 3:30 Joseph Buttner**, Scott Weston, Mark Fregeau  
CULTURE OF SOFTSHELL CLAMS *Mya arenaria* USED TO RESTORE AND ENHANCE POPULATIONS IN INTERTIDAL WATERS OF MASSACHUSETTS, USA
- 3:45 Robert Vega**, William H. Neill, David Abrego  
REVIEW OF RED DRUM STOCK ENHANCEMENT IN TEXAS
- 4:00 Desmond Maynard**  
DO SALMON HATCHERIES PROVIDE MITIGATION TO THE NE PACIFIC ECOSYSTEM FOR SMOLT PRODUCTION LOST DUE TO ANTHROPOGENIC ACTIVITIES?
- 4:15 William Neill**, Robert Vega  
EFFICACY OF STOCK ENHANCEMENT: SOME PROBLEMS WITH ASSESSMENT

### **ZEBRAFISH HUSBANDRY WORKSHOP-CONTINUED**

Wednesday, March 3 8:30 - 4:30 Pacific Salon 2

Chair: Wendy Porter-Francis

- 8:30 R. Smolowitz**  
A RETROSPECTIVE STUDY OF THE OCCURRENCE, PRESENTATION AND MICROSCOPIC APPEARANCE OF ABDOMINAL TUMORS IN ZEBRAFISH HELD IN A LABORATORY ANIMAL FACILITY
- 8:50 Amrit N. Bart**, Sawitri Silakes  
ULTRASOUND ENHANCED TRANSPORT OF METHANOL INTO ZEBRAFISH *Danio rerio* EMBRYO
- 9:10 Huiping Yang**, Terrence Tiersch  
DEVELOPMENT OF PROTOCOLS FOR ZEBRAFISH SPERM CRYOPRESERVATION IN DIFFERENT PACKAGING CONTAINERS

#### **SPECIAL SECTION: Fish Diseases Coordinated by Michael Kent**

- 9:40 Claudia Harper**  
MORPHOLOGICAL EFFECT OF THE STRESS RESPONSE IN FISH
- 10 :00 BREAK**
- 10:30 Michael Kent**  
*Pleistophora Hyphessobryconis (Microsporidia)*, THE CAUSE OF NEON TETRA DISEASE, IN ZEBRAFISH RESEARCH LABS
- 10:50 Justin Sanders**  
UPDATE ON AN IMPROVED PCR TEST FOR *Pseudoloma neurophilia*, AND ITS APPLICATION FOR NON-LETHAL TESTING
- 11:10 George Sanders**  
ZEBRAFISH HEALTH AND HUSBANDRY AT U. WASHINGTON
- 11:30 Trace Peterson**  
REVIEW OF SEVERAL INTERESTING DIAGNOSTIC CASES
- 11:50 Don Ennis**  
NATURAL TRANSMISSION OF MYCOBACTERIA IN FISH
- 12:10 Keith Jenne**  
ZEBRAFISH HEALTH ISSUES AT UC SAN DIEGO
- 12 :30 LUNCH**

### KeyNote Speaker

- 1:30 Russell Fernald  
THE STUDY OF SOCIAL CONTROL OF THE BRAIN
- 2:00 **Gary Moulder**  
ZEBRAFISH CORE FACILITY AND ZIGZAG FORUM AT THE MAYO CLINIC: INFLUENCING RESEARCH THROUGH A SYNERGY MODEL
- 2:30 **Carole Wilson**  
BRITISH LEGISLATION AND HUSBANDRY STANDARDIZATION
- 2:50 **BREAK**
- 3:00 **Gilly Griffin**  
A GLOBAL UPDATE ON GUIDELINES FOR FISH RESEARCH
- 3:30 **Monte Matthews**  
SUMMARY: GUIDE FOR THE CARE AND USE OF LABORATORY ANIMALS – CHANGES THAT AFFECT ZEBRAFISH HUSBANDRY
- 4:00 **PANEL DISCUSSION** – The Big Picture: Regulation, Standardization, International Recognition & Cooperation
- 5:30 **TOWN HALL MEETING**

### **ALTERNATIVES FEEDSTUFFS FOR AQUACULTURE – JOINT SESSION: PPA, NOAA, AND USDA**

Wednesday, March 3 8:30 - 4:30 San Diego Room  
Chairs: Diane Bellis, Delbert Gatlin, Wendy Sealey, Michael Rust

- 8:30 **Michael Rubino**  
ADVANCING THE U.S. INITIATIVE ON ALTERNATIVE FEEDS FOR AQUACULTURE
- 8:45 **Ronald Hardy**  
MOVING TOWARD SUSTAINABLE FISH FEEDS
- Moderators: Delbert Gatlin and Wendy Sealey
- 9:00 **Diane Bellis**, Delbert Gatlin III, Frederic T. Barrows  
PPA: BEANS, BUGS AND FISH GUTS – COORDINATING RESEARCH ON ALTERNATIVE DIETS
- 9:15 **Delbert Gatlin**  
INVITED PANEL: LET'S GET MOLECULAR – THE GOOD
- 10:00 **BREAK**
- 10:30 **Shin-Kwon Kim**, Kyoung-Duck Kim, Kang-Woong Kim, Hae-Young Lee, Maeng-Hyun Son, Masahito Yokoyama, Toshio Takeuchi  
TAURINE: AN ESSENTIAL NUTRIENT IN FISH
- 10:45 **Frederic Barrows**, Wendy Sealey, Diane Bellis  
PILOT PROGRAM TO CHARACTERIZE FEED INGREDIENTS FOR THE DEVELOPMENT OF ALTERNATIVE AQUACULTURE FEEDS
- 11:00 **Peng Li**, Delbert Gatlin III  
CERTAIN NUTRIENTS IN ANIMAL PROTEINS MAY PLAY CRITICAL ROLES IN THE DIETS OF AQUACULTURED ANIMALS
- 11:15 **Michael Rust**  
INVITED PANEL: LET'S GET MOLECULAR – THE BAD
- 12:00 **LUNCH**

Moderator: Michael Rust

**1:30 Paul Smolen**

SOYMEAL COMPOSITION: VARIATION, MEASURABILITY AND VALUE CAPTURE OPPORTUNITIES

**1:45 Guillaume Salze**, Katheline Hua, Dominique P. Bureau

A META-ANALYSIS OF ESSENTIAL AMINO ACID REQUIREMENTS OF FISH

**2:00 Heidi Lewis**, Jerome Laporte, Patrick Blaufuss, Jesse Trushenski

PHYSIOLOGICAL CONSEQUENCES OF FISH MEAL REPLACEMENT WITH PLANT-DERIVED PROTEINS: ALTERATIONS IN STRESS RESPONSE AND TOLERANCE

**2:15 Jon Amberg**, Jeffrey Weber, Paul Brown

SOY PROTEIN CONCENTRATE IN PRACTICAL DIETS FOR YELLOW PERCH *Perca flavescens*; GROWTH AND EXPRESSION OF STRESS RELATED GENES

**2:30 Brian Small**

CATFISH GHRELIN PHYSIOLOGY: IMPLICATIONS IN FISH CARBOHYDRATE METABOLISM

**2:45 Barrie Robison**

SEXUAL DIMORPHISM IN THE RESPONSE OF THE HEPATIC TRANSCRIPTOME TO DIETARY CARBOHYDRATE MANIPULATION IN THE ZEBRAFISH *Danio rerio*

Moderator: Jeffrey Silverstein

**3:00 Emily Dierking**, John A. Schillinger

MADE-TO-ORDER MEALS: RE-DESIGNING SOYBEAN SEED COMPOSITION TO MEET SPECIFIC AQUAFEED DEMANDS

**3:15 Victor Raboy**

UPDATE ON ENGINEERING OPTIMAL GRAIN AND LEGUME SEED PHOSPHORUS

**3:30 Jamie Hooft**, A. Elmor, P. Encarnaçao, D. P. Bureau

EFFECTS OF LOW LEVELS OF NATURALLY OCCURRING *Fusarium* MYCOTOXINS ON THE PERFORMANCE AND HEALTH OF RAINBOW TROUT

**3:45 Jeffrey Silverstein**

INVITED PANEL: LET'S GET MOLECULAR – HOW DO YOU TELL THE DIFFERENCE?

### OPTIMIZING SMALL-SCALE AQUACULTURE FOR THE POOR: A SESSION IN HONOR OF DR. YANG YI

Wednesday, March 3 8:30 - 4:30 Pacific Salon 5

Chairs: Hillary Egna, F. Evans

**8:30 C. Kwei Lin**, James Diana

DR. YANG YI – A MEMORIAL

**8:45 James Diana**, C. Kwei Lin, Yang Yi

ADVANCES IN OPTIMIZING POND CULTURE SYSTEMS

**9:00 Claude Boyd**

WATER USE EFFICIENCY IN AQUACULTURE

**9:15 Amrit Bart**, Sultanul A. S. Ahmad, James E. Rakocy, James S. Diana

INTRODUCED NILE TILAPIA *Oreochromis niloticus* HAVE ONLY A MINOR IMPACT ON SMALL INDIGENOUS FISH SPECIES IN STATIC POND ENVIRONMENT OF BANGLADESH AND NEPAL

**9:30 Madhav Shrestha**, Ravi Sharma, Kamala Gharti, Yang Yi, James Diana

POLYCULTURE OF SAHAR *Tor putitora* WITH MIXED-SEX NILE TILAPIA *Oreochromis niloticus*

**9:45 Russell Borski**, Remedios Bolivar, Eddie Boy Jimenez, Roberto Sayco, Reginor Argueza

GROWTH PERFORMANCE OF NILE TILAPIA *Oreochromis niloticus* L. IN PONDS IN THE PHILIPPINES USING COMBINED FEED REDUCTION STRATEGIES

- 10:00 Remedios Bolivar**, Eddie Boy Jimenez, Roberto Sayco, Reginor Argueza, Hernando Bolivar, Lourdes Dadag, Russell Borski  
EFFECT OF AGE OF BROODFISH ON THE GROW-OUT PERFORMANCE OF NILE TILAPIA *Oreochromis niloticus* L. FINGERLINGS IN EARTHEN PONDS
- 10:15 BREAK**
- 10:30 Tran Thi Thanh Hien**, Ly Vu Minh, Nguyen Hoang Duc Trung, Chong M. Lee, David A. Bengtson  
REPLACEMENT OF FISH MEAL BY SOYBEAN MEAL WITH ALPHA-GALACTOSIDASE IN DIETS FOR SNAKEHEAD *Channa striata*
- 10:45 Liping Liu**, Kang LI, Taoying Chen, Yang Yi, James S. Diana  
EFFECT OF THE *Microcystis aeruginosa* ON THE WATER FLEA *Daphnia magna* AND THE RED SWAMP CRAYFISH *Procambarus clarkia*
- 11:00 Sinh Le Xuan**, Robert S. Pomeroy  
FARMING OF SNAKEHEAD FISH *Channa micropeltes* AND *Channa striatus* IN THE MEKONG DELTA OF VIETNAM
- 11:15 Sinh Le Xuan**  
TRADE AND CONSUMPTION OF FOOD FISH IN FRESHWATER AREAS OF THE MEKONG DELTA, VIETNAM
- 11:30 So Nam**, Chakriya Norng, Sy Vann Leng, Robert Pomeroy  
SMALL-SIZED FISH PASTE PRODUCTION TECHNOLOGY IN CAMBODIA'S MEKONG RIVER BASIN
- 11:45 So Nam**, Sophea Un, Sy Vann Leng, Robert Pomeroy  
MARKET CHANNEL AND TRADE OF FISH PASTE FROM SMALL-SIZED FISH IN CAMBODIA
- 12:00 Derun Yuan**, Amararatne Yakupitiyage, Yang Yi, James S. Diana  
EFFECTS OF DIFFERENT FEEDING METHODS ON PERFORMANCES OF INTENSIVE POLY-CULTURE OF WHITE SHRIMP *Litopenaeus vannamei* AND RED TILAPIA *Oreochromis* spp.
- 12:15 Liping Liu**, Derun Yuan, James H. Bowman, Yang Yi, Héry Coulibaly, Hillary Egna  
LESSONS FROM ASIA FOR RICE-FISH CULTURE IN MALI IN WEST AFRICA
- 12:30 LUNCH**
- 1:30 Charles Ngugi**, Kwamena Quagraine  
EFFICIENT POND DESIGN STRATEGIES FOR A VARIETY OF ENVIRONMENTS
- 1:45 Levi Lukoda Kasisira**, Peter Mulamba, Nelly A. Isyagi, John Walakira, William E. Tollner  
AQUACULTURE POND CONSTRUCTION GUIDELINES FOR SUSTAINABLE MICRO-WATERSHED DEVELOPMENT IN UGANDA
- 2:00 Theodora Shuwu Hyuha**, James Bukenya  
PROSPECTS OF AQUACULTURE ENTERPRISES IN POVERTY REDUCTION IN UGANDA
- 2:15 Siyanbola Omitoyin**, Oluwaseyi Sanda  
SOURCES AND USES OF MICRO-CREDIT IN POVERTY ALLEVIATION AMONG FISH FARMERS IN OSUN STATE, NIGERIA
- 2:30 Sebastian Chenyambuga**, Margaret Kibodya, Berno Mnembuka, Kajitanus Osewe, Rebecca Lochmann, Kwamena Quagraine  
USE OF *Moringa oleifera* AND *Leucaena leucocephala* TO IMPROVE COST EFFICIENCIES IN TILAPIA *Oreochromis niloticus* FEED
- 2:45 Maria Célia Portella**, Hillary Egna, James Bowman, Remedios Bolivar, Wilfrido Contreras, Lourens De Wet, Khalid Salie, Charles Ngugi, Nguyen Thanh Phuong  
YANG YI'S CONTRIBUTIONS TO POSITIVE OUTCOMES OF THE AQUAFISH CRSP'S HOST COUNTRY PRINCIPAL INVESTIGATOR EXCHANGE PROJECT IN BRAZIL

- 3:00 Kevin Fitzsimmons**, Pamela Ramotar, Jason Licamele, Michelle Ferman  
UTILIZATION OF LOCAL FEED INGREDIENTS FOR FRESHWATER AQUACULTURE
- 3:15 Carlos Alfonso Alvarez-González**, Benigno García-Hernández, Gabriel Marquez-Couturier, Wilfrido M. Contreras-Sanchez, Roberto Civera-Cerecedo, Ernesto Goytortua-Bores  
PARTIAL SUBSTITUTION OF FISH MEAL WITH PORK MEAL IN PRACTICAL DIETS FOR THE MAYAN CICHLID *Cichlasoma urophthalmus* JUVENILES
- 3:30 Maria Haws**, Eladio Gaxiola-Camacho, Guillermo Rodriguez-Dominguez, Nelvia del Socorro Hernandez, Erick Sandoval, Carlos Rivas LeClair, Juan Ramon Bravo, Brian Crawford, John Supan, Agnes Saborio-Coze  
OPTIMIZING UTILIZATION OF BIVALVE RESOURCES THROUGH COMMUNITY-BASED AQUACULTURE, SANITATION AND FISHERIES MANAGEMENT ON THE PACIFIC COASTS OF MEXICO AND NICARAGUA
- 3:45 Maria Haws**, Rafael Elao, Emilio Ochoa-Moreno, Guerdy Guevara, Luis Arriaga, Gustavo Rodríguez-Montes de Oca, Eladio Gaxiola-Camacho, Guillermo Rodriguez-Dominguez, Brian Crawford, Nelvia del Socorro Hernandez, Carlos Rivas-LeClair  
DEVELOPMENT OF AN ELEOTRIDAE FISH *Dormitator latifrons* (PACIFIC FAT SLEEPER), FOR AQUACULTURE ON THE PACIFIC COASTS ECUADOR, NICARAGUA AND MEXICO
- 4:00 Wilfrido Contreras-Sánchez**, Maria de Jesus Contreras-Garcia, Ulises Hernandez-Vidal, Alejandro Mcdonal-Vera, Reynaldo Patiño  
INDUCED REPRODUCTION OF THE FAT SNOOK *Centropomus parallelus* IN CAPTIVITY USING GnRH-a INJECTIONS AND IMPLANTS
- 4:15 Wilfrido Contreras-Sánchez**, Rosa Martha Padron-Lopez, Lucero Vazquez-Cruz, Ulises Hernández-Vidal, Kevin Fitzsimmons  
ISOLATION AND CHARACTERIZATION OF BACTERIA FROM BIOFILMS FORMED IN FILTERS USED TO ELIMINATE METHYLTESTOSTERONE FROM INTESIVE TILAPIA MASCULINIZATION SYSTEMS

## 15 YEARS OF AQUACULTURE DRUG APPROVAL SUCCESSES

Wednesday, March 3 8:30 - 4:30 Royal Palm Salon 1

Chair: Rosalie (Roz) Schnick

- 8:30 Rosalie (Roz) Schnick**  
INTRODUCTION
- 8:45 Rosalie (Roz) Schnick**  
FACTORS LEADING TO 15 YEARS OF AQUACULTURE DRUG APPROVAL SUCCESSES
- 9:15 Gary Jensen, Kevin Greenlees and Gary Stefan**  
PERSPECTIVES FROM THE FEDERAL INTERAGENCY COORDINATING JOINT SUBCOMMITTEE ON AQUACULTURE'S NATIONAL WORKING GROUP
- 9:30 PERSPECTIVES FROM THE CENTER FOR VETERINARY MEDICINE**
- Origins of Aquaculture Regulation at CVM** – Steven Vaughn, Director, Office of New Animal Drug Evaluation
- Creation of a Team/Elimination of a Backlog** – Joan Gotthardt, Former Director, Division of Therapeutic Drugs for Food Animals, Office of New Animal Drug Evaluation
- 10:00 BREAK**
- 10:30 PERSPECTIVES FROM THE CENTER FOR VETERINARY MEDICINE – Continued**
- Development of the Aquaculture Data Generating Partnership and Approval Success** – Don Prater, Former Team Leader, Aquaculture Drugs Team, Office of New Animal Drug Evaluation
- Incentives for Aquaculture Drug Approval** – Meg Oeller, Director, Office of Minor Use & Minor Species Animal Drug Development

**Framework for Future Aquaculture Drug Approvals** – Jen Matysczak, Leader, Aquaculture Drugs Team,  
Office of New Animal Drug Evaluation

- 11:15 Mark Gaikowski, Bill Gingerich**  
DEVELOPING BROAD DRUG APPROVALS FOR AQUACULTURE – STRATEGIES TO SUPPORT FUTURE SUCCESS
- 11:45 Jim Bowker**  
PERSPECTIVE FROM THE US FISH AND WILDLIFE SERVICE
- 12:00 LUNCH**
- 1:30 Charlie Gieseke**  
DRUG APPROVAL STUDIES AT CVM'S OFFICE OF RESEARCH
- 1:45 Pat Gaunt**  
PERSPECTIVE ON AQUACULTURE DRUG APPROVAL RESEARCH FROM A UNIVERSITY RESEARCHER
- 2:00 Christine M. Moffitt**  
REFLECTING ON THE LEGACY OF AN NRSP-7 INAD FOR ERYTHROMYCIN: RELATIONSHIPS WITH UNIVERSITIES, USGS, AND DRUG SPONSORS
- 2:15 Dick Endris**  
REGISTRATION OF PHARMACEUTICALS FOR AQUACULTURE IN THE UNITED STATES
- 2:45 Dave Lovetro**  
35% PEROX-AID® ... STRETCHING CURRENT BOUNDARIES TO NEW GROWTH
- 3:00 Don Bell, Jan Holland**  
THE ROAD TO REGISTERING A VETERINARY MEDICINE - A SMALL COMPANY PERSPECTIVE
- 3:30 Jim Brackett**  
AQUATIC LIFE SCIENCES DRUG APPROVAL PROJECTS UPDATE
- 3:45 Steve Sharon**  
DRUG APPROVALS AND THEIR POSITIVE INFLUENCE ON PUBLIC AQUACULTURE
- 4:00 Jerry Zinn**  
DO YOUR TROUT DO DRUGS? THEN THANK ADA
- 4:15 Randy MacMillan**  
PROGRESS AND OPPORTUNITIES: DRUG APPROVALS FOR THE DOMESTIC AQUACULTURE INDUSTRY

**FINFISH GENETICS CONTRIBUTED**

Wednesday, March 3 10:30 - 4:30 Royal Palm Salon 6

Chair: Greg Lutz

- 10:30 Marcia Chiasson, Hooman Moghadam, Roy Danzmann, Moira Ferguson**  
QUANTITATIVE TRAIT LOCI (QTL) FOR BODY WEIGHT IN FRASER STRAIN ARCTIC CHARR *Salvelinus alpinus* REARED IN DIFFERENT ENVIRONMENTAL CONDITIONS
- 10:45 Han You Lin, Feng Ru Cao, Yen Feng Lin, Han Ching Wang, Yi Min Chen, Tzong Yueh Chen, Huey Lang Yang**  
PURIFICATION, FUNCTIONAL ANALYSIS AND GENE CONING OF CHITINASE FROM ORANGE-SPOTTED GROUPER *Epinephelus coioides*
- 11:00 Caird Rexroad, Cecilia Castano, Timothy Smith, Roger Vallejo, Jianbo Yao, Ralph Wiedmann**  
SINGLE NUCLEOTIDE POLYMORPHISM DISCOVERY IN RAINBOW TROUT
- 11:15 William Wolters, Gary Burr**  
PHENOTYPIC AND GENETIC VARIATION FOR GROWTH IN TWO ARCTIC CHARR *Salvelinus alpinus* STOCKS

- 11:30 Zexia Gao**, Khalid Abbas, Weimin Wang  
GENETIC DIVERSITY, POPULATION STRUCTURE AND PHYLOGENETICS OF YELLOWCHEEK CARP *Elopichthys bambusa* AS REVEALED BY MICROSATELLITES MARKERS AND CYTOCHROME B SEQUENCES
- 11:45 Zhi-Yong Wang**, Guang-tai Zhao, Xian-de Liu, Ming-yi Cai, Cui-luan Yao  
MICROSATELLITE MARKER ANALYSIS REVEALS DIFFERENTIAL PARENTAL CONTRIBUTIONS IN LARGE YELLOW CROAKER *Pseudosciaena crocea*
- 12:00 LUNCH**
- 1:30 Malay Choudhury**, Ando Seiichi  
STRUCTURAL ORGANIZATION OF NEW GENES OF APOLIPOPROTEIN A MULTIGENE FAMILY IN JAPANESE EEL *Anguilla japonica*
- 1:45 Han-Ping Wang**  
SEX CONTROL AND SEX DETERMINATION MECHANISM IN BLUEGILL
- 2:00 Xiaojuan Cao**, Han-Ping Wang, Hong Yao, Paul O'Bryant, Jacob D. Rapp, Geoffrey K. Walla  
ESTIMATES OF GENETIC PARAMETERS FOR GROWTH-RELATED TRAITS OF YELLOW PERCH WITH ONE-STAGE AND TWO-STAGE SELECTION
- 2:15 Zongli Yao**, Qifang Lai, Kai Zhou, Hui Wang  
CARBONIC ANHYDRASE AND SODIUM-POTASSIUM ATP ENZYME GENE EXPRESSION AFTER ALKALINITY WATER TRANSFER OF MEDAKA FISH *Oryzias latipes*
- 2:30 Debbie Plouffe**, Charmaine Milligan, Dawn Runighan, Jonathan Veinot, John Buchanan  
DETERMINATION OF PLOIDY FROM EYED ATLANTIC SALMON EGGS AND VALIDATION OF A PROCEDURE FOR THE PRODUCTION OF TRIPLOID AQUADVANTAGE SALMON
- 2:45 Eric Saillant**, Helena D'Cotta, Jean Francois Baroiller  
ENVIRONMENTAL EFFECTS ON SEX DETERMINATION AND DIFFERENTIATION IN FISH – POTENTIAL APPLICATION TO SEX CONTROL IN AQUACULTURE
- 3:00 Adeljean Ho**, Junda Lin  
GEOGRAPHIC MORPHISM, CHROMATIC PATTERNING, AND GENETIC STRUCTURE OF YELLOWHEAD JAWFISH *Opistognathus aurifrons* (PERCIFORMES: OPISTOGNATHIDAE)
- 3:15 Genciana Terova**, Samuela Corà, Simona Rimoldi, Giovanni Bernardini, Marco Saroglia  
IMPACT OF DIETARY MANIPULATION ON PEPT1 mRNA EXPRESSION LEVELS IN SEA BASS *Dicentrarchus labrax*
- 3:30 Brian Shepherd**, Christopher Rees, Frederick Goetz  
CHARACTERIZATION AND REGULATION OF SUPPRESSOR OF CYTOKINE SIGNALING (SOCS) GENES IN YELLOW PERCH *Perca flavescens*
- 3:45 Amrit Bart**, Taweessin Peatpisut  
CRYOPRESERVATION OF SPERM FROM NATURAL AND SEX REVERSED ORANGE-SPOTTED GROUPER *Epinephelus coioides*

### ENGINEERING CONTRIBUTED

Wednesday, March 3 1:30 - 4:30 Sunrise Room  
Chair: Tim Pfeiffer

- 1:30 Mark Sharrer**, Kata Rishel, Steven Summerfelt  
ACTIVATED SLUDGE ADSORPTION OF HEAVY METALS IN A MEMBRANE BIOLOGICAL REACTOR OPERATED FOR RECLAMATION AND REUSE OF RECIRCULATING AQUACULTURE SYSTEM WASTEWATER

- 1:45 Timothy Pfeiffer**, Paul S. Wills  
AN EVALUATION OF A MICRO PROGRAMMABLE LOGIC CONTROLLER FOR OXYGEN MONITORING AND CONTROL IN TANKS OF A RECIRCULATING AQUACULTURE SYSTEM
- 2:00 John Davidson**, Steven Summerfelt, Chris Good, Carla Welsh  
ACCUMULATING NITRATE-NITROGEN AND ITS POTENTIAL IMPACT ON RAINBOW TROUT *Oncorhynchus mykiss* CULTURED IN LOW AND NEAR-ZERO EXCHANGE RECIRCULATING AQUACULTURE SYSTEMS
- 2:15 Phillip Lee**, Philip Turk  
PROPERTIES AND KINETICS OF DENITRIFICATION IN CLOSED, RECIRCULATING SYSTEMS
- 2:30 Jame Ebeling**, Paul Hightower, Douglas Drennan  
IMPROVING SINGLE PASS SOLIDS REMOVAL IN BEAD BIOCLARIFIERS BY OPTIMIZING MEDIA SIZE AND SHAPE
- 2:45 Steven Summerfelt**, Christopher Good, Carla Welsh, John Davidson  
WATER TREATMENT PROCESS EFFICIENCIES IN REPLICATED RECIRCULATING SYSTEMS OPERATED WITH AND WITHOUT OZONATION
- 3:00 Pål Lader**, Heidi Moe, Egil Lien  
FLUMETANK MEASUREMENTS OF DRAG AND DEFORMATION OF A CIRCULAR FISH CAGE IN STEADY CURRENT WITH DIFFERENT NET SOLIDITY AND WEIGHT CONFIGURATIONS
- 3:15 John Davidson**, Steven Summerfelt, Christopher Good, Carla Welsh  
WATER QUALITY IN REPLICATED RECIRCULATING AQUACULTURE SYSTEMS OPERATED AT HIGH, LOW, AND NEAR-ZERO WATER EXCHANGE WITH AND WITHOUT OZONE
- 3:30 Eric Steimle**, Michael Hall, Enrique de la Vega, Marcela Salazar  
THE USE OF A DUAL FREQUENCY IDENTIFICATION SONAR (DIDSON) FOR AQUACULTURE
- 3:45 Christopher Good**, Thomas Waldrop, Grete Baeverfjord, Kirsti Hjelde, Brett Kenney, Kevin Snekvik, Steven Summerfelt  
A FACTORIAL STUDY TO INVESTIGATE THE EFFECTS OF SWIMMING SPEED AND DISSOLVED OXYGEN CONCENTRATION ON RAINBOW TROUT PERFORMANCE, HEALTH, AND WELFARE
- 4:00 Mike Hosford**, Douglas H. Ernst, Ron Ketler  
FIELD PERFORMANCE OF A HIGH EFFICIENCY, COMMERCIAL SCALE, COUNTER-CURRENT OXYGEN CONTACTOR (FARRELL TUBE)

### SHRIMP NUTRITION CONTRIBUTED

Wednesday, March 3 10:30 - 4:30 Town & Country Room  
Chair: Joe Fox

- 10:30 Darryl Jory**, Albert Tacon, Alberto Nunes  
SHRIMP FEED MANAGEMENT: ISSUES AND PERSPECTIVES
- 10:45 Addison Lawrence**, Susmita Patnaik, Delbert Gatlin, Alejandro Buentello, Mian Riaz  
EVALUATION OF FISH AND SHRIMP BY-PRODUCTS AS PARTIAL AND COMPLETE REPLACEMENTS FOR FISH MEAL IN DIETS OF PACIFIC WHITE SHRIMP *Litopenaeus vannamei*
- 11:00 Fabio Soller D. Silva**, Timothy C. Morris, Tzachi M. Samocha, D. Allen Davis, Josh Wilkenfeld  
PLANT BASED DIETS FOR *Litopenaeus vannamei*: REPLACEMENT OF FISH OIL WITH SOYBEAN OIL WITH OR WITHOUT ADJUSTMENTS IN n3/n6 RATIO
- 11:15 Daranee Sookying**, D. Donald A. Davis  
SOY PROTEIN CONCENTRATES USE AS AN ALTERNATIVE PROTEIN SOURCE FOR PACIFIC WHITE SHRIMP *Litopenaeus vannamei*
- 11:30 Andrew Logan**, Susmita Patnaik, Addison Lawrence  
EFFECT OF SINGLE-CELL PROTEIN AS A FEED INGREDIENT ON GROWTH AND SURVIVAL OF *Litopenaeus vannamei* IN AN INDOOR GROWTH TRIAL OPERATED AT HIGH RECIRCULATION

- 11:45 Zhi Yong Ju**, Warren Dominy, Ian Forster  
PIGMENTATION, GROWTH, AND SURVIVAL OF SHRIMP *Litopenaeus vannamei* FED DIETS WITH SYNTHETIC FREE OR NATURAL ESTERIFIED ASTAXANTHIN
- 12:00 LUNCH**
- 1:30 Jorge Fenucci**, Nora S. Haran, Ana C. Díaz  
INFLUENCE OF STEROLS ON GROWTH AND HEPATOPANCREAS HISTOLOGY OF THE ARGENTINE PRAWN *Artemesia longinaris* BATE (DECAPODA, PENAEIDAE)
- 1:45 Piamsak Menasveta**, Somkiat Piyatiratitivorakul  
IMPROVED PALATABILITY OF HIGH PLANT PROTEIN SHRIMP FEED BY THE ADDITION OF BETAINE/AMINO ACID MIXTURE
- 2:00 Dustin Wing**, Addison L. Lawrence, Susmita Patnaik, Donald V. Lightner, Ahmed Mustafa, Delbert Gatlin III  
EFFECTS OF HEMICELLULOSE FIBER USED AS A FEED ADDITIVE ON GROWTH, SURVIVAL, IMMUNE RESPONSE, HISTOLOGY AND GUT FLORA OF *Litopenaeus vannamei* IN INDOOR GROWTH TRIALS OPERATED AT HIGH RECIRCULATION.
- 2:15 Dong-Fang Deng**, Zhi Yong Ju, Warren Dominy, Addison Lawrence, Susmita Patnaik, Joe Fox  
EFFECT OF PROTEIN BOUND AND CRYSTALLINE METHIONINE ON GROWTH PERFORMANCE OF THE PACIFIC WHITE SHRIMP *Litopenaeus vannamei* AT 26°C
- 2:30 Ahmed Mustafa**, Susmita Patnaik, Delbert Gatlin III, Don Lightner, Bart Dunsford, Addison Lawrence  
EFFECTS OF DIETARY SUPPLEMENTATION OF GALACTOOLIGOSACCHARIDES (GOS) MODULATION OF STRESS, IMMUNE RESPONSE, GUT MICROFLORA, DIGESTIVE TRACT HISTOLOGY, GROWTH AND SURVIVAL IN PACIFIC WHITE SHRIMP *Litopenaeus vannamei* CULTURED IN A RECIRCULATING SYSTEM
- 2:45 Ahmed Mustafa**, Susmita Patnaik, Delbert Gatlin III, Don Lightner, Bart Dunsford, Addison Lawrence  
EFFECTS OF SHORT-CHAIN FRUCTOOLIGOSACCHARIDES ON MODULATION OF STRESS, IMMUNE RESPONSE, GUT MICROFLORA, DIGESTIVE TRACT HISTOLOGY, GROWTH AND SURVIVAL IN PACIFIC WHITE SHRIMP *Litopenaeus vannamei* CULTURED IN A RECIRCULATING SYSTEM
- 3:00 Dustin Wing**, Addison L. Lawrence, Susmita Patnaik, Donald V. Lightner, Ahmed Mustafa, Delbert Gatlin III  
EFFECTS OF THE FEED ADDITIVE PRISTINE AQUA<sup>®</sup> ON GROWTH, SURVIVAL, IMMUNE RESPONSE, HISTOLOGY AND GUT FLORA OF *Litopenaeus vannamei* IN INDOOR GROWTH TRIALS OPERATED AT HIGH RECIRCULATION
- 3:15 Susmita Patnaik**, Addison L. Lawrence, Ian Forster, Warren Dominy, John Leffler  
EFFECT OF DIETARY PROTEIN LEVELS ON GROWTH AND SURVIVAL OF *L. setiferus* IN INDOOR TANKS WITH HIGH RATES OF RECIRCULATION AND REMOVAL OF UNEATEN FEED AND WASTES
- 15:30 Valeriano Corre**, Rex Ferdinand Traifalgar  
DIETARY ERGOSAN SUPPLEMENTATION ENHANCES DISEASE RESISTANCE AND IMPROVES PRODUCTION YIELD OF *Penaeus vannamei* CULTURED IN COMMERCIAL SCALE POND PRODUCTION SYSTEM

## STRIPED BASS GROWERS ASSOCIATION INDUSTRY FORUM

Wednesday, March 3 10:30 - 4:30 Royal Palm Salon 3

Chair: Marc J. Turano

- 10:30 Nancy Sugg**  
PRESIDENT'S WELCOME
- 10:35 Marc Turano**  
HYBRID STRIPED BASS INDUSTRY UPDATE
- 10:55 Mike Freeze**  
UPDATES FROM THE NATIONAL AQUACULTURE ASSOCIATION

- 11:10 Delbert Gatlin, Jesse Trushenski, Kenneth Thompson**  
NUTRITION AND FEEDS RESEARCH
- 12:00 LUNCH**
- 1:30 Nancy Sugg**  
TRIALS AND TRIBULATIONS OF OBTAINING WILD BROODSTOCK
- 1:45 Andrew Goodwin**  
CAN THE VHS VIRUS INVADE POND AQUACULTURE IN THE SOUTH
- 2:05 Adam Hater**  
HYBRID STRIPED BASS AND THE RECREATIONAL FISHING MARKET
- 2:20 Adam Fuller, Craig Sullivan**  
HYBRID STRIPED BASS NATIONAL BREEDING PROGRAM
- 3:20 Striped Bass Growers Association Annual Meeting**

### **MEETING PRODUCTION GOALS WITH LIMITED RESOURCES**

Wednesday, March 3 1:30 - 4:30 Royal Palm Salon 2

Chairs: Jesse Trushenski, Jim Bowker

- 1:30 Thomas Flagg, Desmond Maynard, Deborah Frost, Carlin McAuley, Paul Kline, Jeffrey Gislason**  
AMPLIFYING THREATENED AND ENDANGERED STOCKS WITH LIMITED EGG RESOURCES – THE REDFISH LAKE SOCKEYE CAPTIVE BROODSTOCK CASE EXAMPLE
- 1:45 Steve Sharon**  
REHABILITATION OF WYOMING GAME & FISH DEPARTMENT'S DUBOIS HATCHERY, MAXIMIZING SERIAL USE PRODUCTION UNDER LIMITED RESOURCES
- 2:00 Alan Johnson, James Rudacille, Alan Moore**  
MEETING PRODUCTION GOALS IN IOWA EFFICIENTLY BY FISHERY, HATCHERY, AND RESEARCH COOPERATION
- 2:15 Mark Ahrens**  
IMPROVING SALMONID AQUACULTURE AND SAVING MONEY IN A WATER-REUSE CIRCULAR-POND SYSTEM WITH AQUAMATS® (MERIDIAN AQUATIC TECHNOLOGY, MARYLAND)
- 2:30 Mark Ahrens, Casey Risley**  
ANTI-PATHOGENIC FLOWTHROUGH TREATMENT WITH IODOPHOR IN LARGE-SCALE SALMON EGG INCUBATION, AN EFFECTIVE ALTERNATIVE TO FORMALIN
- 2:45 Caroline Peterschmidt, Vern Tolliver**  
FORMALIN WITH MINIMAL HANDLING AND OTHER FIELD DEVELOPED SYSTEMS
- 3:00 Doug Aloisi**  
CONSTRUCTION AND OPERATION OF SMALL SCALE MOBILE REARING UNITS TO MEET BIOLOGICAL REQUIREMENTS OF T&E SPECIES
- 3:15 Deborah Frost, Carlin McAuley, Michael Wastel, Bryon Kluver, Desmond Maynard, Tom Flagg**  
ISOLATED INCUBATION PROCEDURES USED TO MAXIMIZE EGG PRODUCTION OF ESA-LISTED ENDANGERED SOCKEYE SALMON CAPTIVE BROODSTOCKS
- 3:30 Brian Ott, Les Torrans**  
THE "SEE-SAW": A VERTICAL-LIFT INCUBATOR DESIGNED FOR CHANNEL CATFISH *Ictalurus punctatus* EGG MASSES
- 3:45 Michael Paquette, Michael Gafford**  
FABRICATION OF SPECIALIZED EQUIPMENT USED IN AQUACULTURE USING PVC FOAM SHEET

- 4:00 Nate Wiese**  
THE DECLINING SNAKE RIVER PLAIN AQUIFER AND IMPLICATIONS FOR MEETING MITIGATION REQUIREMENTS FOR SUMMER STEELHEAD *Onchorynchus mykiss* SMOLT PRODUCTION AT THE HAGERMAN NATIONAL FISH HATCHERY
- 4:15 Michael Montagne**  
OVERCOMING POOR WATER QUALITY AND HATCHERY DESIGN TO MEET PRODUCTION GOALS FOR COLORADO RIVER ENDANGERED SPECIES AT OURAY NATIONAL FISH HATCHERY
- 4:30 Robert P. Schmid II**  
USING EQUIPMENT AND MATERIALS FROM OTHER INDUSTRY APPLICATIONS TO MEET THE NEEDS OF A COMMERCIAL FOOD FISH FARMING OPERATION

### **U.S. TROUT FARMERS ASSOCIATION FORUM**

Wednesday, March 3 1:30 - 4:30 Pacific Salon 7  
Chair: Gary Fornshell

- 1:30 Gary Jensen, Jeff Silverstein**  
STRATEGIC DIRECTIONS AND NEEDS OF U.S. TROUT INDUSTRY: PARTNERSHIP ROLE OF USDA
- 2:00 Steven Summerfelt, John Davidson, Christopher Good, Thomas Waldrop**  
RAINBOW TROUT PRODUCTION IN WATER RECIRCULATING SYSTEMS
- 2:30 Gary Fornshell**  
BIOSECURITY AT THE FARM LEVEL: CREATING A STATE OF MIND
- 3:00 Caird E. Rexroad III**  
GENETICS AND BREEDING RESEARCH AT NCCCWA
- 3:15 Carole Engle**  
ECONOMIC MODELING OF THE US TROUT INDUSTRY
- 3:30 Wendy Sealey, Rick Barrows, Gary Fornshell, Gibson Gaylord, Chris Myrick, Carolyn Ross**  
ALTERNATIVE INGREDIENT EVALUATION FOR RAINBOW TROUT
- 3:50 Ken Overturf**  
IMPROVED RESPONSES TO SELECTION IN RAINBOW TROUT
- 4:10 Jerry Zinn**  
VACCINES AND YOUR FARM

### **GENERAL AQUACULTURE CONTRIBUTED**

Wednesday, March 3 1:30 - 4:30 Pacific Salon 1  
Chair: TBA

- 13:30 Ramamujam Sunkam Narayana Iyengar, Manorama Maisnam, Sankhodipta Dey**  
ICTHYODIVERSITY OF MEGHALAYA: INDIA
- 13:45 Rosemary Sharpin Sharpin, Roger Belton**  
USER-FRIENDLY TIMELY BACTERIOLOGICAL MONITORING, AT LAST!
- 14:00 Miguel N Santos, Pedro Gil Lino, Luis Bentes, David Abecasis, Karim Erzini**  
DISPERSION OF TWO HATCHERY PRODUCED AND REARED SEABREAMS (*Diplodus sargus* AND *D. cervinus*) OFF THE SOUTHERN COAST OF PORTUGAL: EFFECT OF ACCLIMATION
- 14:15 Miguel Neves Santos, Pedro Gil Lino, Pedro Pousão-Ferreira**  
BRIEF OVERVIEW OF SEABREAM RESTOCKING EXPERIMENTS IN SOUTHERN PORTUGAL

# THURSDAY, MARCH 4

## AFTER THE DEGREE: CAREERS IN AQUACULTURE AND FISHERIES SCIENCES

Thursday, March 4 8:30 - 10:00 Royal Palm Salon 2

Chairs: Stephanie Reiner, Maxine Chaney

**8:30 Maxine Chaney**, Stephanie Reiner, Kenneth Riley, Bonnie Mulligan, Rafael Martinez  
AFTER THE DEGREE: CAREERS IN AQUACULTURE AND FISHERIES SCIENCES

**8:45 PANEL DISCUSSION**

## WHO ASSURES THE SAFETY OF OUR SEAFOOD SUPPLY?

Thursday, March 4 8:30 - 12:00 Royal Palm Salon 5

Chair: Nathan Stone

**8:30 Carole Engle**, Nathan Stone  
U.S. GOVERNMENT PROGRAMS THAT REGULATE U.S. AQUACULTURE

**9:00 Cathy Roheim**  
DRIVERS AND MARKET TRENDS FOR THIRD-PARTY CERTIFIED AQUACULTURE PRODUCTS

**9:30 Brett Koonse**  
U.S. FOOD AND DRUG ADMINISTRATION VOLUNTARY THIRD PARTY CERTIFICATION BODY PILOT OF  
AQUACULTURE SHRIMP...RESULTS

**10:00 Carl Schroeder**  
OVERVIEW OF THE USDA FSIS CATFISH INSPECTION PROGRAM

## YES WE CAN - SUSTAINABLE AQUACULTURE FOR AMERICA

Thursday, March 4 8:30 - 10:00 Royal Palm Salon 1

Chair: Peter Becker

**8:30 Ronald W. Hardy**  
INFLUENCING THE AQUACULTURE DEBATE: THE EDUCATION-DEFICIT MODEL AND WHEN TO USE

**8:45 George C. Nardi**  
PERMITTING A COMMERCIAL MARINE FINFISH AND SHELLFISH FARM IN MAINE; ONE APPROACH FOR A  
POSITIVE PREDICTABLE

**9:00 Raymond RaLonde**, John Sund  
COMMUNITY BASED SHELLFISH AQUACULTURE: WORKING TOWARD SUSTAINABLE AQUACULTURE IN  
ALASKA

**9:15 Randy Cates**  
PERMITTING THE FIRST OFFSHORE MARINE FINFISH SITE IN THE UNITED STATES LOCATED IN HAWAII:  
HOW IT WAS DONE WITH COMMUNITY ACCEPTANCE

**9:30 Ben Di Pietro**  
STARTING THE DIALOG: HERE AND NOW – AN OPEN FORUM FOR STAKEHOLDERS, DECISION MAKERS  
AND OBJECTIVE MEDIA

## CRUSTACEAN HEALTH

Thursday, March 4 8:30 - 12:00 Royal Palm Salon 4

Chair: Gretchen Messick

**8:30 Gretchen Messick**, J. Jacobs, R. Lee, T. Brinkley, S. Cho, M. Frischer, E. Schott, S. Chung, R. Wood  
CRUSTACEAN HEALTH PARAMETERS AS INDICATORS OF ECOSYSTEM HEALTH

- 8:45 Grant Stentiford**, Birgit Oidtmann  
CRUSTACEAN DISEASES IN A EUROPEAN CONTEXT – RISK OF TRANSBOUNDARY MOVEMENTS OF VIRAL PATHOGENS
- 9:15 Robin Overstreet**, Jean Jovonovich  
VECTOR HOSTS OF VIRUSES INFECTING PENAEIDS
- 9:45 Kelly Bateman**, Grant Stentiford  
SUSCEPTIBILITY OF EUROPEAN DECAPODS TO WHITE SPOT
- 10:00 BREAK**
- 11:00 Eric Schott**, Holly Bowers, Lee Carrion, Ammar Hanif, Rosemary Jagus, Gretchen Messick, Oded Zmora  
MOLECULAR MONITORING OF A BLUE CRAB *Callinectes sapidus* REO-LIKE VIRUS IN AQUACULTURE AND SOFT-SHELL PRODUCTION FACILITIES
- 11:15 Andrei Chistoserdov**, Robert Quinn, Anita Metzler, Sai Laxmi Gubbala, Roxanna Smolowitz, Michael Tlusty  
ETIOLOGICAL AGENTS OF SHELL DISEASE IN THE AMERICAN LOBSTER *Homarus americanus*
- 11:30 Whitney Dyson**, Holly Bowers, Eric S. Schott, Ammar Hanif, Dennis McIntosh, Gretchen Messick, Joseph S. Pitula  
A PCR-BASED ASSAY FOR DETECTION OF *Hematodinium* sp. IN SEDIMENT FROM THE MARYLAND COASTAL BAYS

### **POLICY & REGULATION CONTRIBUTED**

Thursday, March 4 8:30 - 12:00 Pacific Salon 1  
Chair: Michael New

- 8:30 Ruby Montoya-Ospina**, Ignacio de Blas-Giral, Mario Velasco-Escudero  
AN INDEX RELATING CAPTURE FISHERIES INPUTS AND AQUACULTURE PRODUCTION OUTPUTS: A MONITORING TOOL FOR PRODUCERS
- 8:45 George Brooks Jr.**  
ANALYSIS OF THE POTENTIAL FOR FUTURE APPLICATION OF TECHNIQUES FROM THE O'ODHAM OIDAQ SUSTAINABLE AQUACULTURE PROJECT ON THE GILA RIVER INDIAN COMMUNITY
- 9:00 Diego Mendiola**, Esteban Puente, Adolfo Uriarte, Lorenzo Motos  
DEVELOPMENT OF A SUSTAINABLE AQUACULTURE PLAN FOR THE BASQUE REGION OF SPAIN
- 9:15 Fu-Sung Chiang**, Chin-Hwa Sun, Yang-Hong Chen, Lee-Jung Lu, Duu-Hwa Lee  
THE IMPACT OF TYPHOON MORAKOT AND THE RECONSTRUCTION IN THE AFTERMATH: THE CASE OF FISH FARMING SECTOR IN TAIWAN
- 9:30 Eric Silberhorn**, Larisa Rudenko  
REGULATION AND SCIENTIFIC APPROACH TO EVALUATING THE RISKS OF GENETICALLY ENGINEERED (GE) FISH AND SHELLFISH IN THE UNITED STATES BY THE U.S. FOOD AND DRUG ADMINISTRATION
- 9:45 Tomas Vergel Jamir**, Patrick Rice, Refik Orhun, Daniel Benetti, Ralph Turingan, Scott Zimmerman  
SHAPING U.S. POLICY, RESEARCH, INVESTMENT AND BUSINESS OPPORTUNITIES IN MARINE AQUACULTURE: THE SEACON MODEL
- 11:00 Graham Mair**, Nick Robinson  
OPPORTUNITIES FOR CONCERTED ACTION FOR GENETIC IMPROVEMENT IN AUSTRALIAN AQUACULTURE
- 11:15 Frank Asche**, Atle G. Guttormsen, Kristin H. Roll  
PROFITABILITY CYCLES IN AQUACULTURE: IMPLICATIONS FOR RISK, COMPETITIVENESS AND GROWTH

### **ABALONE AQUACULTURE AND RESTORATION**

Thursday, March 4 8:30 - 12:00 Pacific Salon 7  
Chair: Carolyn Friedman

- 8:30 Ray Fields**  
CALIFORNIA ABALONE AQUACULTURE: CURRENT STATUS, TRENDS AND CHALLENGES
- 8:45 Brent Vadopalas, Carolyn Friedman**  
CRITICAL CONSIDERATIONS FOR RESTORATION OF MARINE INVERTBRATES: ABALONES
- 9:00 Justin Kemp, Peter J. Britz, Pedro H. Toledo Agüero**  
ASSESSMENT OF THE EFFECT OF ALGAL, FORMULATED AND COMBINATION DIETS ON THE GROWTH OF JUVENILE RED ABALONE *Haliotis rufescens* IN CHILE
- 9:15 Jason Suzuki, Joshua V. Bouma, Jonathan Davis**  
FEEDING AND GROWTH RATES OF JUVENILE PINTO ABALONE *Haliotis kamtschatkana* REARED IN CAPTIVITY
- 9:30 Joshua Bouma**  
RESTORATION OF PINTO/ NORTHERN ABALONE *Haliotis kamtschatkana* POPULATIONS IN WASHINGTON STATE
- 9:45 Bethany Stevick, Kristina Straus, Brent Vadopalas, Don Rothaus, Joshua Bouma, Glenn VanBlaricom, Carolyn Friedman**  
EXPERIMENTAL EVALUATION OF THE RELATIONSHIP OF REARING METHOD AND OUTPLANT SUCCESS IN JUVENILE PINTO ABALONE
- 10:00 BREAK**
- 11:00 Joshua V. Bouma, Don Rothaus, Brent Vadopalas, Carolyn Friedman**  
AGGREGATION OF ADULT PINTO ABALONE *Haliotis kamtschatkana* AS A RESTORATION TECHNIQUE IN THE SAN JUAN ARCHIPELAGO
- 11:15 Glenn R. VanBlaricom, Carolyn S. Friedman, Melissa J. Neuman**  
GLIMMERS OF HOPE IN A GRIM SEASCAPE: EVIDENCE FOR POSITIVE NUMERICAL TRENDS IN AN INSULAR POPULATION OF THE ENDANGERED BLACK ABALONE IN CALIFORNIA
- 11:30 Lisa Crosson, N. A. Wight, S. B. Roberts, G. R. VanBlaricom, C. S. Friedman**  
INFLUENCE OF RICKETTSIAL PATHOGENS ON BLACK ABALONE *Haliotis cracherodii*: DIFFERENTIAL SUSCEPTIBILITY AND HOST RESPONSE

### **SHRIMP BREEDING, GENETICS AND GENOMICS**

Thursday, March 4 8:30 - 12:00 Town & Country Room  
Chair: Melony Sellars

- 8:30 Morten Rye**  
DESIGN OF BREEDING PROGRAMS FOR MARINE SHRIMP SPECIES – ON THE ACCURACY OF GENETIC PARAMETERS AND ESTIMATED BREEDING VALUES
- 9:00 Joao L. Rocha, James Sweeney, Chris Howell, George Chamberlain**  
FIELD TESTS FOR *L. vannamei* COMMERCIAL PERFORMANCE IN ASIAN PONDS
- 9:15 Lachlan Harris, Franklin Perez**  
NOVEL METHODS FOR MICROSATELLITE ASSISTED FAMILY SELECTION UNDER COMMERCIAL PRODUCTION CONDITIONS IN ECUADOR, COMPARISON WITH PUBLISHED DATA FOR GROWTH AND SURVIVAL USING ELASTOMER TAGGING
- 9:30 Greg Coman, Nigel Preston**  
CURRENT AND FUTURE APPLICATIONS OF GENETIC MARKERS FOR SELECTIVE BREEDING OF *Penaeus monodon*

- 9:45 Enrique de la Vega**, Marcela Salazar, James Cock, Thomas Gitterle  
USE OF LOCAL ADAPTATION OF *Penaeus vannamei* AS AN ADDITIONAL BENEFIT TO DISSEMINATE GENETICALLY IMPROVED STOCKS
- 10:00 BREAK**
- 11:00 Tamera Callaghan**, Bernard Degnan, Nicholas Wade, Melony Sellars  
IDENTIFICATION OF GENES INVOLVED IN REPRODUCTIVE AND GERM LINE DEVELOPMENT IN PENAEID SHRIMP
- 11:15 Philip Hertzler**, John Pawlak, Tamera Callaghan, Andrew Foote, Melony Sellars  
IDENTIFICATION OF THE SHRIMP GERM LINE DURING DEVELOPMENT: VASA-RELATED GENES AND A PUTATIVE GERM GRANULE
- 11:30 Kyall Zenger**, Dean Jerry  
UNRAVELLING THE GENOME OF A GLOBAL AQUACULTURE SPECIES – TOWARDS THE CREATION OF A GENOMIC RESOURCE AND QUANTITATIVE TRAIT LOCI DETECTION IN PACIFIC WHITELEG SHRIMP *Litopenaeus vannamei*

## POWER OF EFFECTIVELY DEVELOPING AND MANAGING YOUR BRAND

Thursday, March 4 8:30 - 12:00 Royal Palm Salon 3  
Chair: Joseph J. Myers

Effective brand management is a very powerful way to represent your product and build equity, yet it is often **un-** **or** underutilized tool in production agriculture. Panelists will include an assortment of managers of aquaculture and aquaculture-related brands that cover products, producer groups, services, organizations, and equipment. Panelists will discuss what aspects of their brand development experience are most important and significant to them: external factors that challenge brand equity, logo overhauls, brand dilution or diversification, decisions made and not made. Anything in the branding realm is fair game. The session will conclude with an open discussion among panelists and the audience that will help drive home that a well-managed brand is good for the balance sheet and the bottom line.

Panelists for this session include:

Terry Hanson (Auburn University) – U.S. Catfish  
Joseph J. Myers (New Jersey Department of Agriculture) – Jersey Fresh  
Robert B. Rheault – Moonstone Oysters  
Norbert Sporns – HQ Sustainable Maritime Industries, Inc.  
Laura St. Pierre – YSI, Inc.  
Bruce Vizueta, Aquatic Eco-Systems, Inc.

## ALTERNATIVES FEEDSTUFFS FOR AQUACULTURE JOINT SESSION: PPA, NOAA, AND USDA – CONTINUED

Thursday, March 4 8:30 - 12:15 San Diego Room  
Chairs: Diane Bellis, Delbert Gatlin, Wendy Sealey, Michael Rust

Moderator: Rick Barrows

- 8:30 Qi-Cun Zhou**, J. Alejandro Buentello, Delbert Gatlin III  
EFFECTS OF DIETARY PREBIOTICS ON GROWTH PERFORMANCE, IMMUNE RESPONSES AND INTESTINAL MORPHOLOGY OF RED DRUM *Sciaenops ocellatus*
- 8:45 Alejandro Buentello**, Mian Riaz, William Neill, Addison Lawrence, Susmita Patnaik, Delbert Gatlin III  
EFFECTS OF SEAFOOD-PROCESSING WASTES USED IN AQUAFEEDS ON BIOLOGICAL INDICES AND PROXIMATE COMPOSITION OF JUVENILE RED DRUM *Sciaenops ocellatus*
- 9:00 Rick Barrows**  
INVITED PANEL: INCREASING THE IMPACT OF RESULTS OF YOUR INGREDIENT EVALUATION
- 10:00 Brian Gause**, Jesse Trushenski  
REPLACEMENT OF FISH MEAL IN SUNSHINE BASS *Morone chrysops* ♀ x *Morone saxatilis* ♂ DIETS WITH PROTEINACEOUS FERMENTATION BIOMASS

**10:15 BREAK**

**11:00 Zhou Enhua**, Michael C. Cremer, Zhang Jian , Timothy O'Keefe  
SOY PROTEIN CONCENTRATE AS A REPLACEMENT FOR FISHMEAL IN THE FINGERLING DIET FOR GRASS CARP PRODUCTION IN CHINA

**11:15 Andrew Coursey**, Christopher Kohler, Jesse Trushenski  
ALTERNATIVE FEEDING STRATEGIES TO MAXIMIZE MARINE FEEDSTUFF REPLACEMENT IN LARGEMOUTH BASS CULTURE WHILE MAINTAINING PRODUCTION PERFORMANCE

**11:30 Dave Jirsa**, Allen Davis, Mark Drawbridge, Kevin Stuart  
DEVELOPMENT OF PRACTICAL SOY-BASED DIETS FOR WHITE SEABASS *Atractoscion nobilis* AND CALIFORNIA YELLOWTAIL *Seriola lalandi*

**11:45 Gary S. Burr**, Frederic T. Barrows, William R. Wolters  
EFFECTS OF CANOLA PROTEIN CONCENTRATE ON GROWTH OF ATLANTIC SALMON *Salmo salar*

**12:00 Dave Jirsa**, Rick Barrows, Mark Drawbridge, Ron Hardy  
MINIMIZING THE USE OF FISHMEAL IN DIETS FOR WHITE SEABASS *Atractoscion nobilis* AND CALIFORNIA YELLOWTAIL *Seriola lalandi*

**LIVE HAULING OF FISH:  
REGULATIONS, PHYSIOLOGICAL IMPACTS, AND SYSTEM DESIGN**

Thursday, March 4 8:30 - 3:00 Royal Palm Salon 6  
Chairs: John Colt, Mike Masser

**8:30 Kevin Amos**, Jill Rolland, Gary Egrie, Ray Brunson  
FACILITATING SAFE AND EFFECTIVE INTERSTATE COMMERCE: ROLES OF THE REGULATORS

**8:45 Fred Conte**, Charles Bildstein, Peter Struffenegger  
ENGINEERING FOR ANIMAL WELFARE IN PRODUCTION AQUACULTURE: HUMANE SLAUGHTER FOR DOMESTIC AND INTERNATIONAL MARKETS

**9:15 Joe Tomasso**  
PHYSIOLOGICAL BASIS FOR TRANSPORT-RELATED LOSSES OF AQUATIC ANIMALS

**9:45 William Wurts**  
SALT USE TO REDUCE STRESS

**10:00 BREAK**

**11:00 Hugh Thomforde**  
MANAGING AMMONIA IN CLOSED-SYSTEM LIVE TRANSPORT

**11:15 Eric Kroeger**, John Colt, Michael Rust  
FINE BUBBLE DIFFUSERS: IMPACTS OF PRESSURE, WATER, AND HANDLING ON MASS FLOWRATES AND TRANSFER EFFICIENCY

**11:30 John Colt**, Eric Kroeger, Michael Rust  
IMPACTS OF ALKALINITY AND CARBON REMOVAL ON THE MORTALITY AND PRODUCT QUALITY OF TILAPIA

**11:45 Carl Schreck**, Tracey Momoda, Rob Chitwood, John Colt  
EFFECTS OF STRESS AND INJURY ASSOCIATED WITH TRANSPORTING LIVE TILAPIA

**12:00 LUNCH**

**1:30 Todd Harmon**  
TRANSPORTING MARINE FISH FROM CASTAWAY CAY, BAHAMAS TO FLORIDA VIA A CRUISE SHIP

- 1:45 John Colt**, Leo Ray  
HAULING CHANNEL CATFISH FINGERLING FROM ARKANSAS TO IDAHO: AN ADVENTURE WITH LEO RAY
- 2:00 Forrest Wynne**  
LIVE HAULING FOOD SIZE CHANNEL CATFISH *Ictalurus punctatus*
- 2:15 John Stieglitz**, Daniel D. Benetti, Bruno Sardenberg, Ronald H. Hoenig, Aaron W. Welch  
TRANSPORT OF LIVE JUVENILE COBIA *Rachycentron canadum*: EFFECTS OF SALINITY, TEMPERATURE, AND SHIPPING DENSITY ON SURVIVAL
- 2:30 Mark Francis**  
CURRENT TRENDS IN THE DESIGN AND CONSTRUCTION OF COMMERCIAL HAULING SYSTEMS FOR AQUACULTURE

## BIOFLOCS

Thursday, March 4 8:30 - 3:00 Sunrise Room  
Chairs: Yoram Avnimelech, Steve Hall

- 8:30 Addison Lawrence**, D. Kuhn, S. Patnaik, G. Boardman, L. Marsh, G. Flick  
WHAT MAKES BIOFLOC GREAT FOR SHRIMP
- 8:45 David Kuhn**, Addison Lawrence, Gregory Boardman, Susmita Patnaik, Lori Marsh, George Flick  
SUSTAINABLE BIOFLOC TECHNOLOGY: USING BIOREACTORS TO TREAT AQUACULTURAL EFFLUENTS WHILE PRODUCING BIOFLOCS FOR SHRIMP FEED
- 9:00 Andrew Ray**, Gloria Seaborn, MaryAnne Drake, Craig Browdy, John Leffler  
THE EFFECTS OF FISH-BASED VERSUS PLANT-BASED FEEDS AND SOLIDS MANAGEMENT ON SHRIMP *Litopenaeus vannamei* FLESH CHARACTERISTICS
- 9:15 Andrew Logan**  
BIOFLOC BY THE TRUCKLOAD: A NEW AQUAFEED INGREDIENT FROM OBERON FMR, INC.
- 9:30 Megan Kent**, Craig L. Browdy, John W. Leffler  
CONSUMPTION AND DIGESTION OF SUSPENDED MICROALGAL SPECIES COMMON IN BIOFLOC CULTURE SYSTEMS BY JUVENILE PACIFIC WHITE SHRIMP *Litopenaeus vannamei*
- 9:45 Yoram Avnimelech**  
DISCUSSION: WHAT ARE THE SPECIFIC ADDED VALUE NUTRIENTS IN BIOFLOCS?
- 10:00 BREAK**
- 11:00 Leticia Arena**  
STUDY OF GENETIC DIVERSITY AND BACTERIAL FLORA COMPOSITION IN *Litopenaeus vannamei* RAISED IN "FLOC"
- 11:15 Tzachi Samocha**, Joshua Haslun, Kevin Strychar, Eudes Correia, Joshua Wilkenfeld  
PRELIMINARY CHARACTERIZATION OF MICROBIAL AND ALGAL COMMUNITIES IN A ZERO WATER EXCHANGE SUPER-INTENSIVE SYSTEM FOR PRODUCTION OF FOOD-SIZE PACIFIC WHITE SHRIMP *Litopenaeus vannamei*
- 11:30 Jean Goguenheim**, R. Bernardino, A. Bigot, R. Dufour, G. Remoissenetm, G. Gaxiola, M. Emerenciano, G. Cuzon  
COMPARISON OF PERFORMANCES FOR *L. stylirostris* RAISED IN FLOATING CAGES, IN EARTHEN PONDS OR IN FLOC SYSTEM
- 11:45 Madhusoodana Kurup**, Saritha Thomas  
APPLICATION OF BIOFLOC TECHNOLOGY IN THE LARVICULTURE OF *Macrobrachium rosenbergii*
- 12:00 LUNCH**

- 1:30 Madhusoodana Kurup**, K. K. Prajit  
APPLICATION OF BIOFLOC TECHNOLOGY IN THE SEMI INTENSIVE CULTURE SYSTEM OF GIANT PRAWN *Macrobrachium rosenbergii* (DE MAN)
- 1:45 James Rakocy**, Jason Danaher, Donald Bailey, Charlie Shultz  
DEVELOPMENT OF A BIOFLOC SYSTEM FOR THE PRODUCTION OF TILAPIA
- 2:00 Yosuke Hirono**, Gary Rogers, Darryl Jory  
AERATION NEEDS AND ALTERNATIVES FOR BFT SYSTEMS: STATUS, ISSUES AND PERSPECTIVES
- 2:15 John Leffler**, Jason Haveman, Edward Durant, Alisha Lawson, Daryl Weldon  
OXYGEN DEMAND, ECOLOGICAL ENERGETICS AND NUTRIENT DYNAMICS IN MINIMAL EXCHANGE, SUPERINTENSIVE, BIOFLOC SYSTEMS CULTURING PACIFIC WHITE SHRIMP *Litopenaeus vannamei*
- 2:30 Madhusoodana Kurup**, Madhusoodana Kurup  
QUALITATIVE AND QUANTITATIVE EVALUATION OF BIOFLOC DEVELOPED IN DIFFERENT PH LEVELS IN THE CULTURE OF *Penaeus monodon* WITH SPECIAL REFERENCE TO MICROBIAL POPULATION
- 2:45 Tzachi Samocha**, Bob Advent, Eudes Correia, Timothy Morris, Joshua Wilkenfeld  
GROWTH PERFORMANCE OF *Litopenaeus vannamei* IN SUPER INTENSIVE MIXOTROPHIC RACEWAY CULTURE WITH ZERO DISCHARGE USING TAERATION® TECHNOLOGY FOR AERATION AND EXTENDED CO<sub>2</sub> DEGASSING
- 3:00 Wilson Wasielesky**, Charles Fróes, Adriana Silva, Dariano Krummenauer, Geraldo Foes, Luis Henrique Poersch  
EFFECT OF HIGH STOCKING DENSITY ON GROWTH AND SURVIVAL IN DIFFERENT LIFE STAGES OF *Litopenaeus vannamei* IN BFT CULTURE SYSTEM
- 3:15 Yoram Avnimelech**, Mudnakudu Nandeeshha  
DISCUSSION: NEEDS AND OPTIONS OF BRIDGING THE EXTENSIVE SYSTEMS TOWARD THE INTENSIVE BFT SYSTEMS

## MOLLUSC DISEASES AND DEFENSES

Thursday, March 4 8:30 - 5:30 Pacific Salon 5

Chairs: Christopher Dungan, Marta Gomez-Chiarri, Ryan Carnegie

- 8:30 Leila Basti**, Makoto Endo, Susumu Segawa  
HISTOPATHOLOGICAL EFFECTS OF THE TOXIC DINOFLAGELLATE *Heterocapsa circularisquama* ON SHORT-NECK CLAM *Ruditapes philippinarum* AND BLUE MUSSEL *Mytilus galloprovincialis*
- 8:45 Isabelle Arzul**, Emmanuelle Omnes, Maeva Robert, Bruno Chollet, Jean-Pierre Joly, Laurence Miossec, Cyrille François, Céline Garcia  
DISTRIBUTION OF *Bonamia exitiosa* IN FLAT OYSTER *Ostrea edulis* POPULATIONS IN FRANCE
- 9:00 Christopher F. Dungan**, Ryan B. Carnegie, Nancy A. Stokes, Kristina M. Hill, Carol B. McCollough, Susan E. Laramore, John Scarpa, Eugene M. Burreson  
AN UNANTICIPATED *Bonamia* sp. PATHOGEN INFECTS SUMINOE OYSTERS EXPOSED TO ATLANTIC WATERS OF SOUTHERN FLORIDA, USA
- 9:15 Kristina Hill**, Nancy A. Stokes, James D. Moore, Kimberly S. Reece, Ryan B. Carnegie, Eugene M. Burreson  
EXPLORING THE PHYLOGEOGRAPHY OF *Bonamia* spp. (PHYLUM HAPLOSPORIDIA) THROUGH ANALYSIS OF INTERNAL TRANSCRIBED SPACER (ITS) REGION RIBOSOMAL DNA (rDNA) SEQUENCES
- 9:30 Rebeca Vásquez-Yeomans**, Jorge Cáceres-Martínez, Gloria Padilla-Lardizábal  
PARASITES OF THE PLEASURE OYSTER *Crassostrea corteziensis* FROM NORTHWEST MEXICO
- 9:45 Sammy Ray**  
CURRENT STATUS OF DERMO DISEASE *Perkinsus marinus* IN MAJOR OYSTER PRODUCING BAYS OF TEXAS
- 10:00 BREAK**

- 11:00 Patricia Mirella da Silva**, Rachel Costa Sabry, Rafael Diego Rosa, Tereza Cristina Vasconcelos Gesteira, Aimê Rachel Magenta Magalhães, Margherita Anna Barracco  
FIRST REPORT OF A *Perkinsus* sp. INFECTING MANGROVE OYSTERS *Crassostrea rhizophorae* OF THE BRAZILIAN COAST
- 11:15 Isabelle Arzul**, Bruno Chollet, Justine Michel, Maeva Robert, Laurence Miossec, Jean-Pierre Joly, Cyrille François, Céline Garcia  
*Perkinsus olseni* AND A NEW *Perkinsus* sp., CLOSED TO *P. chesapeaki*, SYMPATRIC IN CLAMS *Ruditapes decussatus* FROM LEUCATE LAGOON, FRANCE
- 11:30 Kwang-Sik Choi**, Hyun-Sung Yang, Bong-Kyu Kim, Yanin Limpanont, Kwang-Jae Park, Young-Je Park, Je-Hee Song  
2009 SPRING SURVEY ON PERKINSUS OLSENI INFECTION IN MANILA CLAM *Ruditapes philippinarum* IN KOREAN WATERS
- 11:45 Sergio Fernández**, Asunción Cao, Eduardo Chicano, José Alhama, Juan L. Barea, Antonio Villaba  
COMPARISON OF PROTEIN EXPRESSION AMONG THREE *Perkinsus* spp., PROTOZOAN PARASITES OF MOLLUSCS, THROUGH 2D ELECTROPHORESIS AND MASS SPECTROMETRY
- 12:00 LUNCH**
- 1:30 Kwang-Sik Choi, Jee-Youn Lee, Kwang-Jae Park, Young-Jae Park**  
TIME SERIES ANALYSIS OF *Perkinsus olseni* INFECTION IN MANILA CLAMS *Ruditapes philippinarum* TRANSPLANTED FROM A LOW TO HIGH INFECTION AREA OFF THE WESTERN COAST OF KOREA
- 1:45 Jorge Cáceres-Martínez**, Rebeca Vásquez-Yeomans, Miguel Ángel Del Río-Portilla  
MORTALITY EPISODES OF *Crassostrea gigas* CULTURED IN NORTHWEST MEXICO ASSOCIATED TO OYSTER HERPESVIRUS
- 2:00 Colleen Burge**, Steven Roberts, Carolyn Friedman,  
TRANSMISSION OF THE OYSTER HERPES VIRUS FROM INFECTED *Crassostrea gigas* SEED TO NAÏVE *C. gigas* LARVAE
- 2:15 Tristan Renault**, Isabelle Arzul, Bruno Chollet, Nicole Faury, Sylvie Ferrand, Cyrille François, Céline Garcia, Philippe Haffner, Jean-Pierre Joly, Laurence Miossec, Emmanuelle Omnes, Jean-François Pépin, Maéva Robert, Denis Saulnier  
SUMMER MORTALITY OUTBREAKS OF FRENCH PACIFIC OYSTERS *Crassostrea gigas* IN 2008 AND 2009: RESEARCH AND DETECTION OF PATHOGENS
- 2:30 Maxine Chaney**, Andrew Y. Gracey  
INTERPRETING DISEASE PHYSIOLOGY WITH MOLECULAR PATTERNS IN THE PACIFIC OYSTER
- 2:45 Ryan B. Carnegie**, Eugene M. Bureson  
CHANGING ROLE OF *Haplosporidium nelsoni*, AGENT OF MSX DISEASE IN THE OYSTER *Crassostrea virginica* IN CHESAPEAKE BAY, VIRGINIA, USA
- 3:00 BREAK**
- 3:30 Inke Sunila**, Scott Lindell, Ximing Guo, Paul Rawson  
FIELD TRIALS OF EASTERN OYSTERS *Crassostrea virginica* CROSS-BRED FOR DISEASE RESISTANCE, PART II: PATHOLOGY DATA
- 3:45 Kathryn Markey**, Marta Gomez-Chiarri, Dale Leavitt  
PERFORMANCE OF THREE LINES OF THE EASTERN OYSTER *Crassostrea virginica* AT RHODE ISLAND FARMS: THE 2008 AND 2009 SEASONS
- 4:00 Benjamin Morga**, Isabelle Arzul, Nicole Faury, Céline Garcia, Sophie Lerond, Bruno Chollet, Maeva Robert, Sylvie Lapègue, Tristan Renault  
COMPARISON OF THE CELLULAR AND MOLECULAR RESPONSE AGAINST *Bonamia ostreae* IN SELECTED FOR PARASITE RESISTANCE AND WILD FLAT OYSTERS MAINTAINED IN COHABITATION WITH AN INFECTED STOCK

- 4:15 Timothy Green**, Andrew Barnes  
POLYMORPHISM OF THE SYDNEY ROCK OYSTER PEROXIREDOXIN 6 GENE AND RESISTANCE TO *Marteilia sydneyi*
- 4:30 Diane Kapareiko**, Gary H. Wikfors, Jennifer H. Alix, Eric Schott, Dennis McIntosh, Harold J. Schreier, Oluchi Ukaegbu, Jessica M. Rash  
COMPETITIVE EXCLUSION OR IMMUNE RESPONSE? HOW DOES A PROSPECTIVE PROBIOTIC BACTERIUM FUNCTION IN LARVAE OF THE OYSTER *Crassostrea virginica*?
- 4:45 Chamilani Nikapitiya**, Mahanama De Zoysa, Jehee Lee  
IMMUNE RESPONSE OF ABALONE *Haliotis discus discus* NOVEL ANTISTASIN-LIKE SERINE PROTEINASE INHIBITOR AGAINST BACTERIAL INFECTION

## ADVANCES IN FRESHWATER AND MARINE BAITFISH CULTURE

Thursday, March 4 8:30 - 5:30 Pacific Salon 3  
Chairs: Cortney Ohs, Hugh Thomforde, Chris Green

Moderators: Cortney Ohs, Chris Green

- 8:30 Robert Nelson**, Ronald Phelps  
MARKET SEGMENTS FOR MARINE BAIT FISH IN THE GULF OF MEXICO
- 8:45 Christopher Green**, Michael Coulon, Craig Gothreux  
SUBSTRATE PREFERENCE, SURVIVAL AND DEVELOPMENTAL ONTOGENY OF GULF KILLIFISH *Fundulus grandis* EGGS INCUBATED IN AIR
- 9:00 Charles Brown**, Fernando Galvez, Christopher Green  
LARVAL DEVELOPMENTAL TIMING AND METABOLIC COSTS FROM INCUBATION OF GULF KILLIFISH *Fundulus grandis* AT VARIOUS ENVIRONMENTAL SALINITIES
- 9:15 Craig Gothreux**, C. Greg Lutz, Chris Green  
STRATEGIES FOR IMPROVING GULF KILLIFISH *Fundulus grandis* EGG PRODUCTION IN CLOSED OUTDOOR POOLS
- 9:30 Aaron Welch**, Ronald H. Hoenig, John D. Stieglitz, Daniel D. Benetti, Clyde S. Tamaru  
VOLITIONAL SPAWNING AND LARVAL REARING OF GOGGLE EYES *Selar crumenophthalmus*
- 9:45 Todd D. Sink**, Richard Strange, Rebecca Lochmann, Delbert Gatlin  
NATURAL, INDUCED, AND SYNCHRONIZED SPAWNING OF CAPTIVE ATLANTIC CROAKER *Micropogonias undulatus*
- 10:00 BREAK**
- 11:00 Matthew DiMaggio**, Scott W. Grabe, Shawn M. DeSantis, Eric J. Cassiano, Cortney L. Ohs  
INDUCED VOLITIONAL SPAWNING AND LARVAL REARING OF PINFISH *Lagodon rhomboides* AND PIGFISH *Orthopristis chrysoptera*
- 11:15 Robby Mays**, Shawn McNulty, Sawyer Chiles  
PRELIMINARY RESULTS OF INLAND PINFISH *Lagodon rhomboides* PRODUCTION
- 11:30 Chris Bentley**, Christopher Bentley, Clarke Morton, Nuria Mohammed, Tara Riley, Joshua Reitsma, Michael Schwarz  
PRESENT STATUS AND FUTURE PROSPECTS IN THE HATCHERY PRODUCTION OF SPOT *Leiostomus xanthurus* MARKETED AS A LIVE MARINE BAIT FISH
- 11:45 Patricio Paz**, James Stoeckel, Terrill Hanson, D. Allen Davis  
APPLICATION OF A SIMULATION MODEL IN TWO LIVE BAITSHRIMP PRODUCTION SYSTEMS

**12:00 LUNCH**

Moderators: Hugh Thomforde

- 1:30 Anita M. Kelly**  
DISAPPEARING GOLDEN SHINER PHENOMENON – IS HYDROGEN SULFIDE THE CULPRIT?
- 1:45 Anita M. Kelly**, Sathyanand Kumaran, Nathan Stone  
A POTENTIAL METHOD OF DESTICKING GOLDFISH EGGS FROM SPAWNING MATS
- 2:00 Rebecca Lochmann**, Harold Phillips, Jimmy Faulkner  
THE EFFECTS OF A DAIRY/YEAST PREBIOTIC ON PERFORMANCE AND BONE MINERALIZATION IN FATHEAD MINNOW *Pimephales promelas*
- 2:15 Nathan Stone**  
AN INDOOR HATCHERY METHOD FOR FATHEAD MINNOWS
- 2:30 Hugh Thomforde**  
THE ARKANSAS BAIT AND ORNAMENTAL FISH CERTIFICATION PROGRAM
- 2:45 Jeff Gunderson**, Nik Hassan  
EXAMINING THE ECONOMIC FEASIBILITY FOR A COMBINED OUTDOOR/INDOOR AQUACULTURE STRATEGY FOR RAISING BAITFISH IN A NORTHERN CLIMATE
- 3:00 BREAK**
- 3:30 Shawn McWhorter**, Geoffrey Wallat, Laura Tiu, Han Ping Wang  
GROWTH AND SURVIVAL OF SPOT FIN SHINERS *Cyprinella spiloptera* FED PREPARED MICROENCAPSULATED LARVAL DIETS AS A FIRST FEED
- 3:45 Carole Engle**, Nathan Stone, Larry Dorman  
FEEDING VS. FERTILIZATION FOR BAITFISH FARMING: WHICH IS MORE PROFITABLE WHEN FEED PRICES ARE HIGH?

### **ADVANCES IN BROODSTOCK MANAGEMENT**

Thursday, March 4 8:30 - 5:30 Pacific Salon 2

Chairs: Heidi Lewis, Jesse Trushenski

- 8:30 James Steeby**, Roger Yant  
CHANGES IN CHANNEL CATFISH *Ictalurus punctatus* BROODSTOCK MANAGEMENT OVER 30 YEARS
- 8:45 Alf Haukenes**, David Heikes  
CAN FEMALE CHANNEL CATFISH SELECT THEMSELVES FOR ARTIFICIAL SPAWNING?
- 9:00 Dan Rosauer**, Fred Binkowski, Brian Shepherd, Frederick Goetz  
DEVELOPMENT OF GENETICALLY DEFINED YELLOW PERCH *Perca flavescens* BROODSTOCKS: RESULTS OF PERFORMANCE TRIAL ON F1 GENERATIONS
- 9:15 Jinliang Zhao**  
BROODSTOCK MANAGEMENT AND REPRODUCTION OF MANDARIN FISH *Siniperca chuatsi*
- 9:30 Joel Van Eenennaam**, Javier Linares-Casenave, Mariah Talbott, Molly Webb, Peter Struffenegger, Fred Conte, Serge Doroshov  
THE RELATIONSHIP BETWEEN WHITE STURGEON CAVIAR YIELD AND STAGE OF MATURITY
- 9:45 Agnes Bardon**, Nancy Brown-Peterson, Jason Lemus, Angelos Apeitos, Eric Saillant  
A HISTOLOGICAL STUDY OF GAMETOGENESIS IN CAPTIVE RED SNAPPER *Lutjanus campechanus*
- 10:00 BREAK**
- 11:00 Edward Chesney**, Ronald Malone, Rebecca Tabor, Jeremy Miller  
THE USE OF AIRLIFTED RECIRCULATING SYSTEMS AS A MORE SUSTAINABLE AND COST EFFECTIVE DESIGN FOR BROODSTOCK HOLDING SYSTEMS

- 11:15 Ana Gavrilovic**, Jurica Jug Dujakovic, Ana Ljubicic, Alexis Conides  
BROODSTOCK CONDITIONING AND INDUCED SPAWNING OF THE WARTY VENUS *Venus verrucosa*  
UNDER FOUR DIFFERENT FEEDING REGIMES
- 11:30 Sagiv Kolkovski**, Judith Kolkovski, Michael Babu, Thavasimuthu Citarasu  
DEVELOPMENT OF MATURATION DIET FOR BLACK TIGER SHRIMP *Penaeus monodon* USING HERBAL  
EXTRACTS AND OTHER NATURAL INGREDIENTS
- 11:45 Heidi Lewis**, Jesse Trushenski, Christopher Kohler  
PLANT-BASED LIPID BLENDS CAN COMPLETELY REPLACE MENHADEN FISH OIL IN FEMALE WHITE  
BASS BROODSTOCK DIETS WITHOUT IMPACTING EMBRYONIC OR LARVAL SURVIVAL
- 12:00 LUNCH**
- 1:30 Yonathan Zohar**  
THE INDUCTION OF SPAWNING IN FARMED FISH: FROM THE BENCH TO THE INDUSTRY AND BACK
- 2:00 Alf Haukenes**, Jeff Baxter, Roger Yant  
OPTIMIZING ARTIFICIAL SPAWNING PROTOCOLS FOR CHANNEL CATFISH
- 2:15 Nagaraj Chatakondi**, Brian Small, Christopher Green, Brian Bosworth  
TOWARD IMPROVING LHRHa INDUCED SPAWNING OF CHANNEL CATFISH FOR CHANNEL X BLUE  
HYBRID CATFISH PRODUCTION
- 2:30 Christopher Green**, Roger Yant  
USE OF CHANNEL CATFISH PITUITARY AS A SPAWNING AID FOR HYBRID CATFISH PRODUCTION:  
INFLUENCE OF SEASON AND HEAD SIZE
- 2:45 Bamidele Omitoyin**, I. Oladosu, H. Sadiq  
PRELIMINARY EVALUATION OF THE EFFECTS OF *Rauvolfia vomitoria* AS ANAESTHETIC ON THE  
SURVIVAL AND BLOOD PROFILE OF FEMALE *Clarias gariepinus* (BURCHELL, 1822) BROODSTOCKS
- 3:00 BREAK**
- 3:30 Jim Powell**  
NON-FOOD FISH EXEMPTION FOR BROODSTOCK
- 3:45 SPAWNING AIDS PANEL DISCUSSION**

## CALIFORNIA AQUACULTURE ASSOCIATION (CAA) SPECIAL SESSION

Thursday, March 4 8:30 - 5:30 Golden West Room  
Chairs: Ken Beer, Barbara Rasco, Paul Olin, Bob Hulbrock

### Aquaculture Research, New Challenges in a New Economy

Moderator: Ken Beer

- 8:30 Russ Moll**  
FEDERAL AND STATE CHANGES TO FUNDING AQUACULTURE RESEARCH
- 8:45 Fred Conte**  
CHALLENGES IN PROMOTING MULTI-STATE GRANTS
- 9:00 Raul Piedrahita**  
THE EFFECTS OF TODAY'S GOVERNMENT ECONOMIC CHALLENGES ON AQUACULTURE RESEARCH
- 9:15 Dave Erdahl**  
HOW ARE THE BUDGET ISSUES OF TODAY IMPACTING YOUR ABILITY TO KEEP THE INAD PROGRAM  
GOING
- 9:30 ROUND TABLE DISCUSSION AND Q & A**
- 10:00 BREAK**

Aquaculture Products in the Seafood Supply Chain

Moderator: Barbara Rasco

- 10:30 Sam King**  
A RESTAURATEURS PERSPECTIVE
- 10:45 Andrew Spurgin**  
A CHEF'S PERSPECTIVE
- 11:00 TBD of Golden State Seafood**  
AN ETHNIC DISTRIBUTOR'S PERSPECTIVE
- 11:15 Steve Foltz**  
A TRADITIONAL DISTRIBUTOR'S PERSPECTIVE
- 11:30 ROUND TABLE DISCUSSION AND Q & A**
- 12:30 LUNCH**

The Globalization of Aquaculture Feed: The challenges of being big or small

Moderator: Paul Olin

- 1:30 Jason Mann**  
NUTRITION COMPANY PERSPECTIVE
- 1:45 TBD of Skretting**  
NUTRITION COMPANY PERSPECTIVE
- 2:00 Dave Brock**  
NUTRITION COMPANY PERSPECTIVE
- 2:15 Steven Craig**  
PERSPECTIVE OF A NUTRITION RESEARCHER
- 2:30 ROUND TABLE DISCUSSION AND Q & A**
- 3:00 BREAK**

Aquaculture's Role in Recreational Fishing Opportunities

Moderator: Bob Hulbrock

- 3:30 Craig Bond**  
AQUACULTURE AND STOCKING RECREATIONAL WATER IN THE WEST – A SOCIOECONOMIC ASSESSMENT
- 3:45 Doug Elliot**  
STOCKING RECREATIONAL WATERS IN THE SOUTHWEST – A HISTORICAL BUSINESS PERSPECTIVE
- 4:00 Bill Cox**  
STOCKING RECREATIONAL WATERS IN CALIFORNIA – CONTEMPORARY REGULATORY CONSIDERATIONS
- 4:15 Bill Shedd**  
MARINE RECREATIONAL FISHING AND THE VALUE OF STOCK REPLENISHMENT
- 4:30 ROUND TABLE DISCUSSION AND Q & A**

**PHYSIOLOGICAL INSIGHTS TOWARDS IMPROVING FISH CULTURE II-CONTINUED**

Thursday, March 4 8:30 - 5:30 California Room  
Chairs: Kurt Gamperi, B. Small, M. Rise, Curry Woods

- 8:30 E. Gordon Grau**, Tetsuya Hirano  
FACTORS AFFECTING GROWTH AND OSMOREGULATION IN A EURYHALINE TELEOST FISH, THE TILAPIA *Oreochromis mossambicus*
- 9:00 Carl Schreck**  
UNDERSTANDING THE VARIATION IN HOW FISH RESPOND TO STRESS AND WHAT THAT MEANS FOR AQUACULTURE
- 9:15 Kevin M. Kelley**  
STRESS AND CONSEQUENCES IN MARINE FISH. ANTHROPOGENIC STRESSORS, GROWTH AND DEFENSE
- 9:30 Tiago Hori**, Matthew Rise, Stewart Johnson, Luis Afonso, Kurt Gamperl  
THE STRESS PHYSIOLOGY OF ATLANTIC COD *Gadus morhua* IN AQUACULTURE
- 9:45 Mathilakath Vijayan**, Derek Alsop, Dinu Nesan, Maryam Kamkar, Mungo Marsden  
DEVELOPMENT OF THE CORTISOL STRESS AXIS IN ZEBRAFISH
- 10:00 Nicholas Bernier**, Marnix Gorissen, Gert Flik  
HYPOXIA AND THE REGULATION OF FEEDING IN COMMON CARP *Cyprinus carpio*
- 10:15 Andrew Gracey**  
TRANSCRIPTIONAL RESPONSES OF TELEOST FISH TO ENVIRONMENTAL CHALLENGES
- 11:00 John Fleng Steffensen**  
THE EFFECT OF HYPOXIA ON THE MAXIMUM METABOLIC RATE AND SPECIFIC DYNAMIC ACTION IN ATLANTIC COD *Gadus morhua*
- 11:15 Thomas Torgersen**, Ole Folkedal, Lars H. Stien, Tom Hansen, Tore S. Kristiansen, William H. Neill  
EFFECTS OF ACCLIMATION AND HABITUATION TO SHORT- AND LONG-TERM VARIATIONS IN TEMPERATURE
- 11:30 Frode Oppedal**, David Johansson, Øyvind Korsøen, Tim Dempster  
ENVIRONMENTAL PREFERENCES AND CONDITIONS EXPERIENCED BY ATLANTIC SALMON *Salmo salar* L. IN SEA CAGES
- 11:45 Kurt Gamperl**, Corina Busby, Jason Bailey, Juan Perez-Casanova, Jennifer Hall  
IMPROVING THE METABOLIC AND THERMAL PHYSIOLOGY OF CAGE-CULTURED ATLANTIC COD *Gadus morhua*
- 12:00 Jesse Trushenski**, Michael Schwarz, Ricardo Takeuchi, Brendan Delbos, Luis Sampaio  
PHYSIOLOGICAL RESPONSES OF COBIA FOLLOWING EXPOSURE TO DIFFERENT EXPERIMENTAL STRESSORS
- 12:15 Russell Borski**, Christina Strom  
SALINITY REGULATION OF PROLACTIN CELL PROLIFERATION AND APOPTOSIS IN THE EURYHALINE TILAPIA *Oreochromis mossambicus*
- 12:30 LUNCH**
- 1:30 Joseph Cloud**, Goro Yoshizaki, Steven Patton, Wendy Lawrence, Shina Shikina, Penny Swanson  
FISH GERM PLASM PRESERVATION: NEW POSSIBILITIES
- 2:00 Ian A. E. Butts**, Edward Trippel, Matthew K. Litvak  
GAMETE STORAGE: TRICKS OF THE TRADE
- 2:15 Craig Sullivan**, Benjamin Reading, Naoshi Hiramatsu, Takashi Todo, Takahiro Matusbara, Sayumi Sawaguchi, Haruna Amano, Akihiko Hara  
TELEOST EGG QUALITY: YOLK FORMATION AND MATURATION

- 2:30 Yonathan Zohar**  
FISH AS A GONADOTROPIN RELEASING HORMONE (GNRH) STUDY MODEL: AQUACULTURE AND BEYOND
- 2:45 Yoji Yamamoto**, J. Adam Luckenbach, Frederick W. Goetz, Graham Young, Penny Swanson  
EFFECT OF FEED RESTRICTION ON OVARIAN DEVELOPMENT: CHANGES IN CIRCULATING HORMONE LEVELS AND IDENTIFICATION OF DIFFERENTIALLY EXPRESSED OVARIAN GENES
- 3:00 Brian Small**, Kenneth Davis  
SEASONAL DIFFERENCES IN STEROIDS AND MATURATION-RELATED GENES IN CHANNEL CATFISH UNDER NORMAL AND ACCELERATED THERMOPERIODS
- 3:30 J. Adam Luckenbach**, Penny Swanson  
FOLLICLE-STIMULATING HORMONE REGULATION OF OVARIAN GENE EXPRESSION AND STEROIDOGENESIS IN PREVITELLOGENIC COHO SALMON
- 3:45 James Nagler**, Tim Cavileer, Sharon Hook, Irvin Schultz, George Craciun, Joe Verducci, William Hayton  
PHOTOPERIOD EFFECTS ON THE RAINBOW TROUT OVARIAN TRANSCRIPTOME DURING THE REPRODUCTIVE CYCLE
- 4:00 Joan Cerda**  
UNRAVELING THE MOLECULAR MECHANISMS MEDIATING MARINE FISH EGG HYDRATION: THE ROLE OF AQUAPORINS
- 4:15 Julien Bobe**, Juan Martin Traverso  
POST-GENOMIC ANALYSIS OF OOCYTE DEVELOPMENTAL COMPETENCE IN TELEOST FISH
- 4:30 Thomas Desvignes**, Christian Fauvel, Julien Bobe  
NME GENE FAMILY IN THE FISH OVARY
- 4:45 Scott Lankford**  
INTRAOVARIAN ROLES OF BONE MORPHOGENETIC PROTEINS AND ACTIVIN A IN RAINBOW TROUT: STEROIDOGENESIS AND OOCYTE MATURATION
- 5:00 Matthew Cook**, Scott Lankford  
THE EFFECTS OF RNA INTERFERENCE MOLECULES DIRECTED AGAINST BONE MORPHOGENETIC AND ACTIVIN MEMBRANE-BOUND INHIBITOR ON GERMINAL VESICLE BREAKDOWN AND STEROIDOGENESIS IN RAINBOW TROUT *Oncorhynchus mykiss*
- 5:15 Matthew Hale**, Peng Xu, Lauren McIntyre, Julie Scardina, Paul Wheeler, Gary Thorngard, Krista Nichols  
TRANSCRIPTOME PROFILING OF SEX AND DEVELOPMENT RATE DURING EMBRYOGENESIS IN RAINBOW TROUT *Oncorhynchus mykiss*

## **NON-TRADITIONAL AQUACULTURE**

Thursday, March 4 11:00 - 5:30 Royal Palm Salon 1

Chairs: Bill Wurts, Peter Perschbacher

- 11:00 William Wurts**  
FARMING ALGAL FUEL: AN AQUACULTURE PRODUCTION PERSPECTIVE
- 11:30 James C. Levin**, Jon VanOlst, Jim Carlberg, Mike Massingill, Greg Schwartz  
MAXIMIZING THE VALUE OF ALGAL BIOMASS BY IDENTIFYING HIGH VALUE COMPONENTS, AND COST EFFECTIVE STRATEGIES FOR THEIR ISOLATION
- 11:45 Serge Bujold**, Réal Fournier, Erwann Fraboulet, Serge Arpin  
MICROALGAE PRODUCTION; A BIOLOGICAL PROCESS REQUIRING CONTROL, ECONOMIC MEASUREMENT AND TRACEABILITY. A WEB BASED INTEGRATED SYSTEM WITH ONGOING RESULTS FOR CLIENTS
- 12:00 LUNCH**

- 1:30 Gef Flimlin**, Robert Pomeroy  
BUSINESS FEASIBILITY FOR ORNAMENTAL AQUATIC PLANT PRODUCTION IN THE NORTHEAST
- 1:45 Andrew Lazur**, Erin Markin, Michael Pietrak  
AQUATIC PLANT CULTURE OPPORTUNITIES FOR RESTORATION AND MITIGATION
- 2:00 Joseph Mallon**, Cherie Sukovich, Joanne Semmer, Chad Ward, Hugh Mitchell-Tapping  
SURVIVAL RATE OF AQUAPONICALLY GROWN RED MANGROVE *Rhizophora mangle* PROPAGULES AS PLANTED AT THE MEAN HIGH WATER LINE ON SAN CARLOS ISLAND, FLORIDA
- 2:15 John Scarpa**, Leslie N. Sturmer, Charles M. Adams, R. LeRoy Creswell  
NON-TRADITIONAL BIVALVE SPECIES FOR FLORIDA AQUACULTURE: PROSPECTS AND CONSTRAINTS
- 2:30 Walter Mustin**  
GREEN SEA TURTLE FARMING AT THE CAYMAN TURTLE FARM
- 3:00 BREAK**
- 3:30 Mario Roberto Chim Figueiredo**  
NEWS ABOUT FROG CULTURE TECHNOLOGY WITH EMPHASIS ON THE BRAZILIAN EXPERIENCES
- 4:00 Michael Masser**  
ALLIGATOR CULTURE: NOT JUST ANOTHER PRETTY FACE
- 4:15 Shawn Coyle**, Russell Neal, James Tidwell  
KENTUCKY EXPERIENCE WITH MARINE SHRIMP BIO-FLOC SYSTEMS
- 4:30 Kenneth R. Thompson**, Linda S. Metts, Carl D. Webster  
THE CHALLENGES (AND POSSIBLE SOLUTIONS) OF PRODUCING THE AUSTRALIAN RED CLAW CRAYFISH *Cherax quadricarinatus* IN KENTUCKY
- 4:45 Tom Hsiao**  
A LIVE WAREHOUSE: A DEVELOPING CONCEPT
- 5:00 Jonathan Daly**, Nick Kirby, Robert Jones, David Galloway  
DEVELOPMENT OF ASSISTED REPRODUCTIVE TECHNOLOGIES IN CAPTIVE ELASMOBRANCHS
- 5:15 William Wurts**  
LOW-INPUT AQUACULTURE

### **WATER QUALITY - NON SHRIMP CONTRIBUTED**

Thursday, March 4 11:00 - 5:30 Royal Palm Salon 2  
Chairs: Claude Boyd, N. Prapaiwong

- 11:00 James Rakocy**, Donald Bailey, Charlie Shultz, Jason Danaher  
THE STATUS OF AQUAPONICS – 2010
- 11:15 Karen Buzby**, Todd West, Xinchao Wei, Kenneth Semmens  
NUTRIENT REMOVAL BY AQUAPONIC CROPS
- 11:30 Jason Licamele**, Kevin Fitzsimmons, Gene Giacomelli  
OPTIMAL FISH *Oreochromis niloticus* TO PLANT *Lactuca sativa c.v. Rex* RATIOS FOR A CONTROLLED ENVIRONMENT AQUAPONICS SYSTEM
- 11:45 Kyle Palmatory**, Todd West  
EVALUATION OF AQUAPONIC CROP PRODUCTION UTILIZING EFFLUENT FROM A FLOW-THROUGH AQUACULTURE RACEWAY SYSTEM
- 12:00 LUNCH**

- 1:30 Jason J. Danaher**, James E. Rakocy, R. Charlie Shultz, Donald S. Bailey, Lasiba Knight  
ALTERNATIVE SOLIDS TREATMENT TECHNOLOGY FOR THE UNIVERSITY OF THE VIRGIN ISLANDS' AQUAPONIC SYSTEM
- 1:45 Jason Danaher**, Edoardo Pantanella, James E. Rakocy, R. Charlie Shultz, Donald S. Bailey  
ON-FARM APPLICATIONS FOR DEWATERED AQUACULTURE EFFLUENT FROM INTENSIVE BIOFLOC SYSTEMS
- 2:00 Jason Danaher**, R. Charlie Shultz, James E. Rakocy  
EVALUATION OF TWO TEXTILES WITH OR WITHOUT POLYMER ADDITION TO ASSESS TSS REMOVAL EFFICIENCY IN BIOFLOC EFFLUENT
- 2:15 Yaw Ansah**, Emmanuel Frimpong, Steve Amisah  
POTENTIAL EFFLUENT QUALITY AND MICROBIAL LEVELS IN EARTHEN PONDS AND RECEIVING STREAMS OF CENTRAL GHANA
- 2:30 Steve Amisah**, Emmanuel Frimpong, Yaw Ansah  
RELATIONSHIP AMONG MANAGEMENT PRACTICES, POND WATER QUALITY, AND RECEIVING STREAM INTEGRITY IN CENTRAL GHANA
- 2:45 Emmanuel Frimpong**, Yaw Ansah, Steve Amisah, Gifty Anane-Taabeah  
FISH AND MACROINVERTEBRATE ASSEMBLAGES IN RECEIVING STREAMS IN THE VICINITY OF EARTHEN PONDS IN GHANA
- 3:00 BREAK**
- 3:30 Gregory Oliver**, Dennis McIntosh, Daniel Terlizzi, Francis Chrest  
CURRENT METHODS OF CONTROLLING HARMFUL ALGAL BLOOMS AND POSSIBLE FUTURE SOLUTIONS
- 3:45 Sharifah Noor Emilia**, Mitsuru Eguchi  
EFFECTIVENESS OF PHYTOPLANKTON AND BACTERIAL INTERACTION FOR AQUACULTURE
- 4:00 Chien Thai Ngoc**, Rosland Rune, Chien Thai Ngoc, Barthel Knut  
PHYTOPLANKTON VARIABILITY IN RELATION TO ITS BIOLOGICAL AND PHYSICAL ENVIRONMENT ON SHELF WATERS OF KHANH HOA PROVINCE, VIETNAM
- 4:15 Biyu Song**, Yang Yi, James S. Diana  
ELIMINATING MICROCYSTINS-PRODUCING ALGA *Microcystis aeruginosa* BY USING CHITOSAN AND PAC MODIFIED CLAYS
- 4:30 Rawee Viriyatum**, Claude Boyd  
POTASSIUM FERTILIZATION OF BLUEGILL *Lepomis microchirus* PONDS
- 4:45 Chris Weeks**, Per Askeland, Reza Loloee, Sage Kramer, Ruby Ghosh  
DEVELOPMENT, FIELD TESTING AND THEORETICAL APPLICATIONS OF A CONTINUOUS REAL-TIME OPTICAL OXYGEN SENSOR FOR AQUACULTURE USE

**SCIENCE CONSORTIUM FOR OCEAN REPLENISHMENT:  
WORKSHOP ON ASSESSMENT AND MANAGEMENT OF  
GENETIC DIVERSITY IN MARINE STOCK ENHANCEMENT PROGRAMS**

Thursday, March 4 1:30 - 5:30 Royal Palm Salon 5

Chair: Eric Saillant

- 1:30 Eric Saillant**  
GENETIC ASSESSMENT AND MANAGEMENT OF MARINE STOCK ENHANCEMENT: CURRENT DEVELOPMENTS AND ISSUES

Updates on On-Going Genetics Programs Within the Consortium

- 1:45 Eric Saillant**, Brinton Barnes, Reginald Blaylock  
MISSISSIPPI

- 1:55 Mike Tringali**, Ken Leber, Bill Halstead, Brent Winner, Bob McMichael, Richard Cody, Chris Young, Carole Neidig, and Luiz Barbieri  
FLORIDA
- 2:05 Kristen Gruenthal**, Russ Vetter, Mark Drawbridge  
CALIFORNIA

Invited presentations

- 2:15 Mike Tringali**, Maryanne Higham  
WERE LOCALIZED INCREASES IN RELATEDNESS IN STOCKED RED DRUM SUSTAINED IN SUBSEQUENT (UNSTOCKED) GENERATIONS? IF NOT, WHY NOT?
- 2:45 Robin S Waples**, Jonathan Drake, Jeffrey Hard  
RISK BENEFIT ANALYSIS OF MARINE STOCK ENHANCEMENT PROGRAMS
- 3:15 Patrik Gaffney**  
GENETIC MONITORING OF MOLLUSCAN STOCK ENHANCEMENT EFFORTS
- 3:45 DISCUSSION**

**ORNAMENTAL CULTURE CONTRIBUTED**

Thursday, March 4 1:30 - 3:00 Pacific Salon 7  
Chair: Michael Schwarz

- 1:30 Qiang Lin**, Junda Lin  
AQUACULTURE OF THE LINED SEAHORSE *Hippocampus erectus* (PERRY, 1810)
- 1:45 Mehdi Shamsaie Mehrgan**, Sahar Biokani  
STUDY OF DIFFERENT RATIONS ON SPAWNING EFFICIENCY OF SIAMESE FIGHTING FISH *Betta splendens*
- 2:00 Boris Gomelsky**, Kyle J. Schneider, Robert P. Glennon  
PLOIDY IDENTIFICATION IN ORNAMENTAL (KOI) CARP BASED ON SCALE COVER
- 2:15 Mehdi Shamsaie Mehrgan**, S. Khoddami  
THE EFFECTS OF DIFFERENT DRYING METHODS ON QUALITY AND FOOD FACTORS OF GAMMARUS *Pontogammarus maeoticus*
- 2:30 Stephen O'Shea**, Kate Yu, Nancy Breen, Jose Castro-Perez, Harold Pomeroy, Michelle Gladding, Andrew Foley, John Shockcor, Bradford Bourque  
UPLC/TOF MS AND RAMAN SPECTROSCOPY METABOLOMIC APPROACH FOR BIOMOLECULAR PROFILING IN EGGS OF MARINE ORNAMENTAL SPECIES AS A PREDICTOR OF SUCCESSFUL HATCH
- 2:45 Michael Tlusty**, Andrew Rhyne, Tim Scott, Dan Laughlin, Brad Borque  
THE ROLE OF PUBLIC AQUARIUMS IN PROVIDING A SOURCE OF LARVAE: A COLLABORATIVE EFFORT BETWEEN ROGER WILLIAMS UNIVERSITY AND THE NEW ENGLAND AQUARIUM TO DEVELOP A NEW AQUARIUM SCIENCE AND AQUACULTURE MINOR
- 3:00 Tomas Vergel Jamir**, Patrick Rice, Ralph Turingan, Refik Orhun  
A FRAMEWORK FOR ASSESSING THE ROLE OF MARINE ORNAMENTALS AQUACULTURE AS A DEVELOPMENT STRATEGY FOR POOR COUNTRIES

**DEMYSTIFYING SEAFOOD FOR THE PUBLIC: OVERCOMING THE CONFUSION AND MISINFORMATION**

Thursday, March 4 1:30 - 3:00 Royal Palm Salon 3  
Chair: Gary Fornshell

- 1:30 Katie Semon**  
FISHWATCH: GETTING THE FACTS ON SUSTAINABLE SEAFOOD

**2:00 Linda Odierno**  
UNDERSTANDING RISK—CAN YOU MAKE EVERYONE SAFE?

**2:30 Gary Fornshell**  
USING A SCIENCE-BASED CURRICULUM TO EDUCATE CONSUMERS ABOUT SEAFOOD

## **CULTIVATION AND STOCK ENHANCEMENT OF CRABS AND LOBSTERS**

Thursday, March 4 1:30 - 5:30 Pacific Salon 1

Chair: Brad Stevens

**1:30 Martin Mallet, Dounia Daoud, Rémy Haché, Martin Mallet**  
LOBSTER RESOURCE ENHANCEMENT IN ATLANTIC CANADA THROUGH STAGE IV LARVAE SEEDING:  
THE HOMARUS INC. EXPERIENCE

**1:45 Dounia Daoud, Martin Mallet, Rémy Haché, Michel Comeau, Sébastien Plante**  
QUALITY OPTIMIZATION OF HATCHERY-REARED LOBSTER *Homarus americanus* STAGE IV LARVAE

**2:00 Louise Gendron, Réjean Tremblay, Simona Motnikar, Dounia Daoud**  
BEHAVIOUR, PHYSIOLOGICAL CONDITION, SURVIVAL AND GROWTH IN THE WILD OF HATCHERY-  
REARED STAGE IV AMERICAN LOBSTER FED DIFFERENT LIPID COMPOSITION DIETS

**2:15 Michel Comeau, Martin Mallet**  
SURVIVAL OF HATCHERY-REARED STAGE IV AMERICAN LOBSTER *Homarus americanus* RELEASE IN  
EASTERN CANADA USING THE BACI APPROACH

**2:30 Ben Daly, James Swingle, Ginny Eckert**  
EFFECTS OF DIET, DENSITIES AND SIZE GRADING ON GROWTH AND SURVIVAL OF JUVENILE RED  
KING CRAB *Paralithodes camtschaticus*

**2:45 Miranda Westphal, Sherry Tamone, Ginny Eckert**  
GROWTH PHYSIOLOGY OF JUVENILE RED KING CRAB *Paralithodes camtschaticus* REARED UNDER  
LABORATORY CONDITIONS

**3:00 BREAK**

**3:30 Shaunna Harris, Terrence Tiersch**  
INITIAL STUDIES IN QUALITY ASSESSMENT OF AFLAGELLATE SPERM: BLUE CRAB

**3:45 David Armstrong, Bradley G. Stevens**  
EASIER SAID THAN DONE: ENHANCEMENT OF LITHODID CRAB STOCKS IN THE BERING SEA

## **POMPANO CULTURE**

Thursday, March 4 1:30 - 5:30 Town & Country Room

Chair: Chuck Weirich

**1:30 Kenneth Riley, Charles Weirich**  
HISTORY, CURRENT STATUS, AND POTENTIAL OF FLORIDA POMPANO AQUACULTURE

**1:45 Kevan Main, Matthew Resley, Nicole Rhody, Michael Nystrom, Tom Stevens, Charles Adams**  
AN OVERVIEW OF FLORIDA POMPANO *Trachinotus carolinus* RESEARCH AT MOTE AQUACULTURE  
RESEARCH PARK

**2:00 Charles Weirich, Kenneth Riley**  
REPRODUCTION AND LARVICULTURE OF FLORIDA POMPANO

**2:15 Eric J. Cassiano, Cortney L. Ohs, Charles R. Weirich, Andrew L. Rhyne**  
IMPROVEMENTS IN GROWTH, SURVIVAL, AND STRESS RESISTANCE OF FLORIDA POMPANO  
*Trachinotus carolinus* LARVAE FED THE CALANOID COPEPOD *Pseudodiaptomus pelagicus*

- 2:30 John Hawke**  
DISEASES OF CULTURED POMPANO *Trachinotus* spp.
- 2:45 Robert Reigh**, Craig Gothreaux, Biswamitra Patro, Millie Williams  
RESEARCH TO DEVELOP ALL-PLANT-PROTEIN DIETS FOR FLORIDA POMPANO
- 3:00 BREAK**
- 3:30 Biswamitra Patro**, Robert C. Reigh, Millie B. Williams  
REPLACEMENT OF FISH MEAL WITH PURIFIED AMINO ACIDS AND PLANT PROTEINS IN THE DIETS OF JUVENILE FLORIDA POMPANO *Trachinotus carolinus*
- 3:45 Waldemar Rossi Junior**, D. Allen Davis, Melanie Rhodes  
REPLACEMENT OF FISH MEAL BY POULTRY-BY-PRODUCT MEAL IN PRACTICAL DIETS FOR FLORIDA POMPANO *Trachinotus carolinus*
- 4:00 Waldemar Rossi Junior**, D. Allen Davis, Melanie Rhodes  
EVALUATION OF THE REPLACEMENT OF FISH MEAL BY MEAT AND BONE MEAL IN PRACTICAL DIETS FOR FLORIDA POMPANO *Trachinotus carolinus*
- 4:15 Paul Wills**, Timothy Pfeiffer, Marty Riche  
PRODUCTION OF FLORIDA POMPANO *Trachinotus carolinus* IN LOW SALINITY SYSTEMS
- 4:30 Fernando Cavalin**, Mark Pemberton, Jean Gagnon  
POMPANO AQUACULTURE IN THE CARIBBEAN

### **AQUAFEEDS - SPONSORED BY BIOMIN**

Thursday, March 4 1:30 - 5:30 San Diego Room  
Chair: Pedro Encarnaç o

- 1:30 Pedro Encarnaç o**, Ines Rodrigues, Katia Pedrosa, Ursula Ofstetter  
MYCOTOXINS: AN OVERLOOKED THREAT IN AQUACULTURE FEEDS
- 1:45 Md. Shah Alam**, Wade Watanabe, Shawn LongFellow  
EFFECTS OF REPLACEMENT OF MENHADEN FISH MEAL PROTEIN BY SOYBEAN MEAL PROTEIN SUPPLEMENTED WITH OR WITHOUT PRE-COATED L-METHIONINE AND L-LYSINE ON GROWTH PERFORMANCE AND BODY COMPOSITION OF JUVENILE SOUTHERN FLOUNDER *Paralichthys lethostigma*
- 2:00 Md. Abdul Kader**, Saichiro Yokoyama, Manabu Ishikawa, Shunsuke Koshio  
EFFECT OF LOWERING FISHMEAL WITH COMPOSITE MIXTURES OF SOYBEAN MEAL AND SEAFOOD PROCESSING BY-PRODUCTS ON GROWTH PERFORMANCES AND ELEMENT COMPOSITIONS IN RED SEABREAM *Pagrus major*
- 2:15 Anant Bharadwaj**, Jesus A. Venero, Andrew F. Giesen, Farshad Shishehchian, Craig L. Browdy  
SUPPLEMENTATION OF AMINO ACIDS IN PLANT-BASED FEEDS FOR FISH AND SHRIMP
- 2:30 Matthew Dawson**, Md. Shah Alam, Wade O. Watanabe  
EFFECTS OF POULTRY BY-PRODUCT MEAL PROTEIN SUBSTITUTION FOR FISH MEAL PROTEIN ON GROWTH PERFORMANCE, BODY COMPOSITION, AND DIGESTIBILITY OF JUVENILE BLACK SEA BASS *Centropristis striata*
- 2:45 Aaron Watson**, Rick Barrows, George Wm. Kissil, Allen Place  
ALTERNATIVE PROTEIN AND LIPID SOURCES IN PARTIAL AND COMPLETE FISH PRODUCT REPLACEMENT DIETS FOR JUVENILE COBIA *Rachycentron canadum*
- 3:00 BREAK**
- 3:30 Luis Sampaio**, Jesse Trushenski, Michael Schwarz, Jerome Laporte, Heidi Lewis, Brendan Delbos, Ricardo Takeuchi  
FISH MEAL REPLACEMENT WITH SOY-DERIVED PROTEINS IN FEEDS FOR JUVENILE COBIA: INFLUENCE OF PROTEIN REPLACEMENT LEVEL AND ATTRACTANT SUPPLEMENTATION

- 3:45 Aaron Watson**, George Wm. Kissil, Allen Place  
DIGESTIBILITY OF PLANT PROTEINS AS FISHMEAL REPLACEMENT CANDIDATES IN JUVENILE COBIA,  
*Rachycentron canadum*
- 4:00 Karthik Masagounder**, Robert Hayward, Jeffrey Firman  
EFFECTS OF DIETARY PROTEIN AND ENERGY LEVELS ON THE GROWTH AND BODY COMPOSITION OF  
JUVENILE BLUEGILL *Lepomis macrochirus*

## THE CULTURE OF IMPERILED SPECIES AND THE ROLE OF CONSERVATION HATCHERIES

Thursday, March 4 1:30 - 5:30 Royal Palm Salon 4  
Chairs: John Seals, C. R. Figiel

- 1:30 Vincent Mudrak**  
CONSERVATION HATCHERY PROGRAMS IN THE SOUTHEAST: A TOOL FOR RECOVERY AND  
RESTORATION
- 1:45 William Wayman**, Robert Holm  
THE USE OF A CRYOPRESERVED SPERM REPOSITORY FOR RECOVERY OF ENDANGERED SPECIES
- 2:00 Catherine Gatenby**, Rachel Mair, Matthew Patterson  
A FRESHWATER MUSSEL (BIVALVIA: UNIONOIDA) PROPAGATION PROGRAM FOR RESTORING AQUATIC  
ECOSYSTEMS AND ENDANGERED SPECIES
- 2:30 Jacques Rinchard**, Blake Snyder, Christina Accardi, Ed Grant, George Ketola  
ASSESSMENT OF LANDLOCKED ATLANTIC SALMON EGG QUALITY PRODUCED AT THE ADIRONDACK  
FISH HATCHERY
- 2:45 Doug Aloisi**  
INCORPORATING CONSERVATION PRINCIPLES INTO FRESHWATER MUSSEL AND LAKE STURGEON  
RECOVERY EFFORTS: STORIES FROM THE MIDWEST
- 3:00 BREAK**
- 3:30 Lee Bender**  
CAPTIVE REARING OF THE ENDANGERED WYOMING TOAD *Bufo baxteri*
- 3:45 Sherry White**  
IMPROVEMENTS IN HATCHERY CULTURE TECHNIQUES FOR CAPTIVE PROPAGATION OF APACHE  
TROUT *Oncorhynchus apache*
- 4:00 Larry Zeigenfuss**, Mike Montagne  
UPPER COLORADO RIVER AND SAN JUAN RIVER RECOVERY PROGRAMS: HATCHERY PROPAGATION  
AND STOCKING OF ENDANGERED FISH
- 4:15 Angela Baran**  
RAZORBACK SUCKER *Xyrauchen texanus* PRODUCTION IN RE-CIRCULATING WATER SYSTEMS AT  
WILLOW BEACH NATIONAL FISH HATCHERY
- 4:30 John P. Bigelow**, Wendy M. Rauw, Luis Gomez-Raya  
EFFECTS OF FEMALE HOLDING TEMPERATURE ON REPRODUCTIVE PERFORMANCE OF LAHONTAN  
CUTTHROAT TROUT *Oncorhynchus clarkii henshawi*
- 4:45 John Rueth**, Scott Hamelberg  
LIVINGSTON STONE NATIONAL FISH HATCHERY: CONSERVATION PROGRAMS FOR ENDANGERED  
WINTER CHINOOK SALMON *Oncorhynchus tshawytscha* AND THREATENED DELTA SMELT *Hypomesus  
transpacificus*
- 5:00 Erick Sturm**, R. Bruce MacFarlane, J. David Streig  
USE OF OVAPLANT®, A SALMON GONADOTROPIN RELEASING HORMONE ANALOG, TO AID IN THE

SPAWNING OF ENDANGERED COHO SALMON *Oncorhynchus kisutch* FROM A CAPTIVE BROODSTOCK PROGRAM: RESULTS FROM THE FIRST FIVE YEARS

## **AQUACULTURE INDUSTRY'S ROLE IN SHAPING PUBLIC PERCEPTION**

Thursday, March 4 3:30 - 5:30 Royal Palm Salon 3

Chair: Linda O'Dierno

- 3:30 Don Kent**  
BLENDING ENVIRONMENTAL RESPONSIBILITY AND ECONOMIC FEASIBILITY
- 3:50 Chris Weible**  
WILLIAM D. LEACH EVALUATING AQUACULTURE PARTNERSHIPS: AN INSTITUTIONAL AND STAKEHOLDER ANALYSIS
- 4:10 Joseph J. Myers**  
TIPS ON WORKING WITH AND WITHIN STATE GOVERNMENT ON AQUACULTURE DEVELOPMENT
- 4:25 Gef Flimlin**  
WORKING WITH COMMUNITY VOLUNTEER ORGANIZATIONS
- 4:45 Bob Rheault**  
ENGAGING THE NGOS: LESSONS LEARNED
- 5:00 Linda O'Dierno**  
PARTICIPATING ACTIVELY IN THE FORMULATION OF PUBLIC POLICY
- 5:20 PANEL/QUESTIONS**

## **OPEN FORUM: SHELLFISH BEST MANAGEMENT PRACTICES**

Thursday, March 4 3:30 - 5:30 Pacific Salon 7

Chair: Dan Cheney

## **LIFE CYCLE ASSESSMENT AND SUSTAINABILITY IN AQUACULTURE: CURRENT INSIGHTS, POTENTIAL POLICY IMPLICATIONS AND OPPORTUNITIES FOR RESEARCH AND OUTREACH**

Thursday, March 4 3:30 - 5:30 Royal Palm Salon 6

Chairs: N. Pelletier, P. Tyedmers, John Colt

- 3:30 Nathan Pelletier**  
LIFE CYCLE ASSESSMENT IN AQUACULTURE: AN INTRODUCTION TO THEORY AND PRACTICE
- 4:00 Patrik Henriksson, Max Troell**  
ENERGY INTENSITY IN TROPICAL AQUACULTURE
- 4:15 Nathan Pelletier, Peter Tyedmers**  
LIFE CYCLE ASSESSMENT OF FROZEN TILAPIA FILLETS FROM INDONESIAN LAKE AND POND-BASED INTENSIVE AQUACULTURE SYSTEMS
- 4:30 Peter Tyedmers, Nathan Pelletier, Ulf Sonesson, Astrid Scholz, Friederike Ziegler, Anna Flysjo, Sarah Kruse, Beatrice Cancino**  
OPPORTUNITIES TO IMPROVE THE LIFE CYCLE ENVIRONMENTAL PERFORMANCE OF SALMON CULTURE
- 4:45 Louise Buttle, Nathan Pelletier, Peter Tyedmers, Dave Robb**  
USING LCA MODELS TO INFORM INDUSTRY-LED EFFORTS TO REDUCE THE ECOLOGIC FOOTPRINT OF SALMON FEED INPUTS

- 5:00 Trevor Swerdfager**  
POTENTIAL CONTRIBUTIONS OF LIFE CYCLE ANALYSIS APPROACHES TO AQUACULTURE RESOURCE MANAGEMENT POLICY AND DECISION MAKING
- 5:15 Mike Mertens**, Astrid Scholz, Peter Tyedmers, Ulf Sonesson, Nathan Pelletier  
EMPLOYING LCA DATA TO MAP DOMAINS OF LEAST ENVIRONMENTAL COSTS OF CONSUMPTION: THE CASE OF GLOBAL SALMON PRODUCTION AND CONSUMPTION
- 5:30 John Colt**, Michael Rust  
DRAFT REPORTING STANDARDS FOR AQUACULTURE SYSTEM PERFORMANCE: WHAT INFORMATION DO WE NEED FOR LCA?

## EXTENSION AND EDUCATION

Thursday, March 4 3:30 - 5:30 Sunrise Room  
Chairs: David Cline, Michael Schwarz

- 3:30 David Cline**  
AQUACULTURE AS A TOOL TO TEACH MATH AND SCIENCE TO K-12 STUDENTS: BARRIERS AND OPPORTUNITIES
- 3:45 Cherie Sukovich**, Joseph Mallon, Shelley Kepler, George P. Bohatch  
INTEGRATION OF SUSTAINABLE PRACTICES THROUGH AQUAPONICS AND RECIRCULATING AQUACULTURE INTO A HIGH SCHOOL CURRICULUM
- 4:00 Sarah Kaatz**, Ron Johnson, James Held  
THE EFFECTIVENESS OF AQUACULTURE EXTENSION PROGRAMMING IN WISCONSIN
- 4:15 Refik Orhun**, Tomas Jamir  
CANDIDATE SPECIES FOR ARTISANAL AND INDUSTRIAL MARINE AQUACULTURE OPERATIONS IN SOUTHEASTERN UNITED STATES AND THE CARIBBEAN
- 4:30 Joseph Molnar**, Nelly Isyagi, John Walakira, Gertrude Atakunda, Karen Veverica, Levi Kasisira  
NEW DIRECTIONS IN AQUACULTURE DEVELOPMENT IN UGANDA: DEMONSTRATION AND TRAINING TO ADVANCE A NASCENT INDUSTRY
- 4:45 Michael Schwarz**, Nicolas Mace, Pierre Bosc, Jerome Bosmans  
INTERNATIONAL MARINE AQUACULTURE EDUCATION AND TRAINING AT LA REUNION
- 5:00 Rosie Abalos**, Marife Felipe  
SEAWEED *Eucheuma* sp. FARMING AT VARIOUS DISTANCES ALONG THE COASTLINE OF DASOL BAY AREA, PANGASINAN, PHILIPPINES
- 5:15 Nene Amabere Jamabo**, George Awotein  
AQUACULTURE, SUSTAINABLE DEVELOPMENT AND POVERTY ALLEVIATION: A CASE STUDY IN THE NIGER DELTA AREA, NIGERIA
- 5:30 Tetsuzan Benny Ron**, Sam Joseph  
AQUACULTURE EDUCATION AND RESEARCH IN AN ONLINE 3D VIRTUAL WORLD
- 5:45 Nancy Lightowler Caruso**  
AQUACULTURE IN THE CLASSROOM: A MODEL FOR ECOLOGICAL RESTORATION AND EDUCATION

## FRIDAY, MARCH 5

### STATUS AND ADVANCES IN SHELLFISH AQUACULTURE

Friday, March 5 8:30 - 12:00 Pacific Salon 7  
Chairs: Ian Forster, Joebert Toledo, Summer Morlock, Jesse Ronguillo

- 8:30 Ian Forster**, Zhi Yong Ju, Dong Fang Deng, Warren Dominy, Michael Grey, Lytha Conquest, Addison Lawrence  
RECENT SHRIMP NUTRITION RESEARCH AT THE OCEANIC INSTITUTE
- 8:45 Joebert Toledo**, Milagros de la Pena, Junemie Lebata-Ramos  
REVIEW OF SHELLFISH R&D AT SEAFDEC/AQD
- 9:00 Bernardo Ronquillo**, Jesse Ronquillo, Scott McKinley  
SHELLFISH AQUACULTURE IN NORTHERN PHILIPPINES
- 9:15 Vincent Politano**, Steve Allen, Kennedy Paynter  
PATENT TONG SURVEYS OF MARYLAND OYSTER SANCTUARIES: ESTIMATING HATCHERY-BASED OYSTER ABUNDANCE AND DISTRIBUTION
- 9:30 Kennedy Paynter**, Steve Allen, Donald Meritt  
HATCHERY-BASED OYSTER RESTORATION IN MARYLAND: ASSESSING SUCCESS, A SURVEY OF PROJECTS UP TO 10 YEARS OLD
- 9:45 Boze Hancock**, Robert Brumbaugh, Michael Beck, Summer Morlock  
TEN YEARS OF SHELLFISH RESTORATION WITH TNC AND NOAA'S COMMUNITY-BASED RESTORATION PROGRAM: ACHIEVEMENTS AND FUTURE DIRECTIONS
- 10:00 BREAK**
- 10:30 Summer Morlock**, Boze Hancock, Robert Brumbaugh  
RESTORING SHELLFISH TO IMPROVE OUR COASTS, SUPPORT GREEN JOBS, AND BOOST THE ECONOMY
- 10:45 William Anderson**, Michael Hodges, Nancy Hadley, Holly Nettles  
CONDUCTING LARGE-SCALE INTERTIDAL OYSTER *Crassostrea virginica* RESTORATION AS MITIGATION IN SOUTH CAROLINA ESTUARINE WATERS
- 11:00 Fariborz Ehteshami**, Annie Christianus, Sharr Azni Harmin, Hossein Rameshi  
EFFECT OF POLYUNSATURATED FATTY ACIDS (PUFAs) ENRICHMENT ON *Pinctada margaritifera* GONAD OUTPUT AND D-SHAPE LARVAL GROWTH
- 11:15 Jesse Ronquillo**, Jamie Fraser, Audrie-Jo McConkey  
IMPROVED PRODUCTION OF EUROPEAN OYSTER *Ostrea edulis* JUVENILES USING ALGAL DIETS RICH IN POLYUNSATURATED FATTY ACID (PUFA)
- 11:30 Catherine Enright**, Jesse Ronquillo  
THE POTENTIAL OF SHELLFISH AQUACULTURE IN NOVA SCOTIA

## THE ROLE OF BIOTECHNOLOGY IN SUSTAINABLE AQUACULTURE

Friday, March 5 8:30 - 3:00 Pacific Salon 2

Chair: Yonathan Zohar A. Elizur

- 8:30 Yonathan Zohar**  
THE ROLE OF BIOTECHNOLOGY IN SUSTAINABLE AQUACULTURE
- 9:00 Thomas T. Chen**, Pin-Wen P. Chiou, Maria J. Chen, Chun-Mean Lin  
PRODUCTION OF TRANSGENIC RAINBOW TROUT RESISTANT TO BACTERIAL AND VIRAL INFECTION
- 9:15 Evaristo Mañanos**, Jose M. Guzmán, Ana Rianza, Constantinos C. Mylonas, Yonathan Zohar  
AQUACULTURE OF SENEGALESE SOLE *Solea senegalensis*: HORMONE-BASED TECHNOLOGIES FOR THE CONTROL OF REPRODUCTION
- 9:30 Ana Gómez**, Gregorio Molés, M<sup>a</sup> José Mazón, Ana Rocha, Berta Crespo, Manuel Carrillo, Silvia Zanuy  
EUROPEAN SEA BASS *Dicentrarchus labrax* GONADOTROPINS: ENDOCRINE ROLES AND BIOTECHNOLOGICAL APPLICATIONS
- 10:00 BREAK**

- 10:30 Jinliang Zhao**, Yanfei Deng, Guoqing Lu, Xuefeng Wu  
CLONING, CHARACTERIZATION AND EXPRESSION OF THE PEPSINOGEN C GENE FROM MANDARIN FISH *Siniperca scherzeri* (TELEOSTEI: PERCIFORMES)
- 10:45 Julien Bobe**, Cathy Charlier  
TRANSCRIPTOMIC ANALYSIS OF THE OVULATORY PROCESS IN RAINBOW TROUT
- 11:00 Mark J. J. van Haaren**, Jan van Oeveren, Marcel Prins, Robert Bogden, Michiel J. T. van Eijk  
WHOLE GENOME PROFILING: A NEW METHOD FOR SEQUENCE BASED WHOLE GENOME PHYSICAL MAP CONSTRUCTION
- 11:15 Esther Lubzens**, Amit Cohen, Liraz Levi, Michael Shmoish, Tamar Ziv, Ron Pinter, Irena Pekarski, Berta Levavi-Sivan, Arie Admon  
MICRORNA EXPRESSION ASSOCIATED WITH FISH VITELLOGENESIS
- 11:30 Elihau-David Aflalo**, Tomer Ventura, Amir Sagi  
FUTURE PROSPECTS OF CRUSTACEAN MONOSEX CULTURE: COULD IT BENEFIT FROM THE DISCOVERY OF AN ANDROGENIC GLAND INSULIN-LIKE FACTOR?
- 12:00 LUNCH**
- 1:30 Abigail Elizur**, Vijayanand R. Mareddy Hazra Thaggard, Brian Paterson, Amir Sagi  
TOWARDS CREATING ALL FEMALE *P. monodon* POPULATIONS THROUGH ANDROGENIC GLAND MANIPULATION
- 1:45 Esther Lubzens**, Nadav Y. Denekamp, Marcus W. Albrecht, Mario Drungowski, Michael Kube, Richard Reinhardt  
CELL-PRESERVATION AT AMBIENT TEMPERATURES? LESSONS FROM NON-DESICCATED ROTIFER RESTING EGGS
- 2:00 Jiraporn Rojtinnakorn**, Chanon Kunasol, Saengtong Pongjaroenkit, Chotipa Sakulsingharoj  
TRANSCRIPTOME PROFILE OF FEMALE *Pangasianodon gigas* BLOOD AND MOLECULAR MARKERS FOR OVULATION

**CHANGES IN STATE AND FEDERAL FISH HEALTH REGULATIONS:  
WHAT WILL IT TAKE TO MOVE FISH IN 2010 AND BEYOND**

Friday, March 5 8:30 - 12:00 Royal Palm Salon 3  
Chair: Andy Goodwin

- 8:30** The National Aquatic Animal Health Plan (NAAHP): For several years we have been hearing about the development of the NAAHP and its anticipated impact on the future of U.S. aquatic animal health. That Plan has now been completed and published in the Federal Register. In this session we will conduct a detailed exploration of the NAAHP with APHIS, USFWS, and NOAA representatives. This will be a moderated round table format with active audience participation. We will go through the NAAHP targeting areas that will affect your business in the future, and agency representatives will address your interests and concerns.
- 10:30 APHIS Representative**  
FEDERAL REGULATION OF VHS AND OTHER AQUATIC ANIMAL DISEASES
- 11:00 Andy Goodwin**  
TOWARD STANDARDIZATION OF STATE FISH HEALTH REGULATIONS
- 11:30 Christa Speekmann**  
GETTING HELP WITH YOUR EXPORT: HOW APHIS CAN ASSIST YOU WITH NEW MARKETS OVERSEAS
- 11:45 Andy Goodwin**  
MAKING CLAIMS ABOUT YOUR FARM'S DISEASE STATUS

**NON-TRADITIONAL AQUACULTURE-CONTINUED**

Friday, March 5 8:30 - 12:00 Royal Palm Salon 1

Chairs: Bill Wurts, Peter Perschbacher

- 8:30 Phillip Lee**, Paul DiMarco, Chrystal Crain, Sarah Lundt  
ADVANCES IN CEPHALOPOD CULTURE
- 9:00 Richard J. Onders**, Steven D. Mims  
RESERVOIR RANCHING OF PADDLEFISH
- 9:15 Steve Mims**, Michael Wilhelm, Richard J. Onders  
REUSE TECHNOLOGY AT A WASTEWATER TREATMENT PLANT FOR FISH CULTURE
- 9:30 Steve E. Lochmann**, Lael A. Will  
AFFECT OF GRADING FREQUENCY ON PRODUCTION OF ALLIGATOR GAR FINGERLINGS IN TANKS
- 9:45 Peter Perschbacher**  
INVESTIGATIONS INTO IMPROVING FINGERLING PRODUCTION OF ALLIGATOR GAR
- 10:00 BREAK**
- 10:30 Forrest Wynne**  
SMALL-SCALE CATFISH TO SUPPLY THE LIVEHAUL/FEE FISHING MARKET IN KENTUCKY – A NON-TRADITIONAL AQUACULTURE MARKET
- 10:45 Shawn Coyle**, Leigh Anne Bright, James Tidwell  
RECENT DEVELOPMENTS IN FEED TRAINING LARGEMOUTH BASS FRY
- 11:00 Carole Engle**, Nathan Stone, Adam Nanninga  
FOODFISH PRODUCTION CHARACTERISTICS OF LARGEMOUTH BASS *Micropterus salmoides* STOCKED AT THREE DENSITIES
- 11:15 Kenneth R. Thompson**, Linda S. Metts, Carl D. Webster  
SMALL-SCALE CAGE CULTURE OF SUNSHINE BASS: POTENTIAL FOR FARM INCOME AND CROP DIVERSIFICATION
- 11:30 Todd Sink**  
INTRODUCING THE ATLANTIC CROAKER *Micropogonias undulatus*: AN EMERGING CANDIDATE FOR MULTIPLE PURPOSE AQUACULTURE PRODUCTION
- 11:45 Brian Nerrie**, James K. Rindfleisch  
MOSQUITOFISH HATCHERY PRODUCTION ISSUES IN VIRGINIA
- 12:00 Charles Hicks**  
ADDRESSING CURRENT NEEDS FOR ALTERNATIVE SPECIES AND METHODS

## **MARKET EFFICIENCY: IMPLICATIONS FOR GLOBAL COMPETITIVENESS - IAAEM**

Friday, March 5 8:30 - 12:00 Pacific Salon 1

Chairs: Brian Nerrie, Kwamena Quagraine

- 8:30 Kwamena Quagraine**  
HETEROGENEOUS PREFERENCES AND CONSUMER PURCHASE BEHAVIOR IN THE NORTH CENTRAL LIVE FISH MARKET
- 8:45 Kelly R. Probst**, Siddhartha Dasgupta, Ken Bates  
USING CLUSTER ANALYSIS AND GIS (GEOGRAPHIC INFORMATION SYSTEMS) TO IDENTIFY LIVE AND FRESH SEAFOOD SALES POTENTIAL IN KENTUCKY'S FARMERS' MARKETS
- 9:00 Jose Fernández-Polanco**, Simone Mueller, Ladislao Luna  
ARE RETAILERS' PREFERENCES FOR SEAFOOD ATTRIBUTES PREDICTIVE FOR CONSUMER WANTS? RESULTS FROM A DCE FOR SEA BREAM *Sparus aurata*

- 9:15 Madan Dey**, Kehar Singh, Carole Engle  
IMPACT OF MARKETING, TRADE AND EXCHANGE RATE POLICIES ON U.S. CATFISH AND TROUT MARKETS: RESULTS FROM DISAGGREGATED FISH SECTOR MODELS
- 9:30 Kehar Singh**, Madan Dey  
INTERNATIONAL COMPETITIVENESS OF MAIN CATFISH PRODUCTS IN MAJOR WORLD MARKETS
- 9:45 Ganesh Thapa**, Madan Dey, Kehar Singh  
CONSUMER PREFERENCES FOR SEAFOOD IN THE NORTHEASTERN REGION OF USA: RESULTS OF ASIAN ETHNIC FISH MARKET SURVEY
- 10:00 BREAK**
- 10:30 Abed Rabbani**, Madan Dey, Kehar Singh  
DETERMINANTS OF CATFISH IMPORTATION IN USA: AN APPLICATION OF AUGMENTED GRAVITY MODEL
- 10:45 Brian Nerrie**  
OVERCOMING CONSTRAINTS TO COMMERCIAL SMALL-SCALE AQUACULTURE IN VIRGINIA
- 11:00 Cathy Roheim**, Julie Insignares, Frank Asche  
MARKET FOR SUSTAINABLE FISH: EVIDENCE OF PRICE PREMIUMS IN THE U.K. RETAIL SECTOR
- 11:15 Chuck Adams**, Mike Oesterling  
A BRIEF OVERVIEW OF THE U.S. COMMERCIAL MOLLUSCAN SHELLFISH CULTURE INDUSTRY
- 11:30 Judith Amadiva**, Charles Ngugi  
MARKETING FARMED FISH IN KENYA: OPPORTUNITIES AND CHALLENGES
- 11:45 Walter Keithly**, Richard Kazmierczak  
CONFLICTS AMONG COMPETING RESOURCE USERS: JUXTAPOSING THE LEASING OF WATER BOTTOMS FOR OYSTER PRODUCTION WITH OIL-AND-GAS ACTIVITIES
- 12:00 LUNCH**
- 1:30 Walter Keithly**, Pawan Poudel, Augustus Matekole  
AN ANALYSIS OF WORLD SHRIMP TRADE AND THE IMPACT OF INCREASED FARM PRODUCTION ON THE U.S. DOMESTIC PRICE
- 1:45 Walton Dickhoff**  
EFFECT OF FARMED SEAFOOD CONSUMPTION ON TRENDS IN U.S. PER CAPITA OMEGA-3 FATTY ACID CONSUMPTION
- 2:00 Ganesh Kumar**, Carole Engle  
THE EFFECT OF CASH FLOW RISK ON STOCKING STRATEGIES ON U.S. CATFISH FARMS: A MIXED INTEGER MULTI-STAGE PROGRAMMING APPROACH
- 2:15 Siddhartha Dasgupta**, Nathan Bussen  
PROFIT-MAXIMIZING AND RISK-EFFICIENT STRATEGIES FOR MANAGING A SOFT-SHELL CRAYFISH OPERATION
- 2:30 Rachel McLemore**, Terrill Hanson, James Stoeckel, Jesse Chappell  
STELLA MODELING TO ASSESS ECONOMIC FEASIBILITY OF FLOATING IN-POND RACEWAY SYSTEMS FOR SUNSHINE BASS *Morone chrysops* x *Morone saxatilis*

### **FEED ADDITIVES FOR HEALTH**

Friday, March 5 8:30 - 3:00 San Diego Room  
Chairs: Delbert Gatlin, Ann Gannam

- 8:30 Chhorn Lim**  
USE OF ORGANIC ACIDS AND THEIR SALTS IN FISH DIETS: A REVIEW

- 8:45 Delbert Gatlin**  
DIETARY NUCLEOTIDE USE IN AQUACULTURE
- 9:00 Thomas Welker**, Chhorn Lim, Mediha Yildirim-Aksoy, Phillip Klesius  
EFFECTS OF DIETARY SUPPLEMENTATION OF A PURIFIED NUCLEOTIDE MIXTURE ON GROWTH, IMMUNE FUNCTION, AND DISEASE AND STRESS RESISTANCE IN CHANNEL CATFISH *Ictalurus punctatus*
- 9:15 Rebecca Lochmann**, Todd Sink, Harold Phillips, Miles Thompson  
THE EFFECTS OF A DAIRY/YEAST PREBIOTIC ON GOLDEN SHINERS, GOLDFISH AND CHANNEL CATFISH – A REVIEW
- 9:30 Ann Gannam**  
PROBIOTICS IN FINFISH AQUACULTURE
- 9:45 David Burbank**, Scott LaPatra, Gary Fornshell, Kenneth Cain  
ASSESSING CANDIDATE PROBIOTIC USE FOR THE POSSIBLE CONTROL OF *Flavobacterium psychrophilum* IN RAINBOW TROUT *Oncorhynchus mykiss*
- 10:00 BREAK**
- 10:30 Robin Schrock**, Ann Gannam  
FEED ADDITIVES: THE PROMISE OF A SILVER PELLETT
- 10:45 Anant S. Bharadwaj**, Craig L. Browdy  
ORGANIC TRACE MINERALS AND FISH HEALTH
- 11:00 Susan Ostrand**, Richard Glenn, Ann Gannam  
INHIBITORY EFFECTS OF ROSEMARY *Rosmarinus officinalis* OIL ON SEVEN COMMON FINFISH PATHOGENS
- 11:15 Carly Daniels**, Daniel Merrifield, Simon J. Davies, Dom Boothroyd  
INVESTIGATING THE APPLICATION OF DIETARY BIOTIC SUPPLEMENTS IN HOMARID LOBSTER CULTURE
- 11:30 Ana Teresa Goncalves**, Takayuki Katagiri, Kunihiro Futami, Masashi Maita, Makoto Endo  
EFFECTS OF PROBIOTIC BACTERIA ON THE MAINTENANCE AND RECOVERY OF HEALTH CONDITION OF CHRONICALLY STRESSED FISH
- 11:45 Fabio Soller D. Silva**, Christopher Sayles, Patricio Paz, Oscar Olivares-Fuster, Cova R. Arias, Jeffery Terhune, D. Allen Davis  
GROWTH PERFORMANCE OF CHANNEL CATFISH *Ictalurus punctatus* FED PRACTICAL DIETS WITH INCREASING LEVELS OF PREBIOTIC
- 12:00 LUNCH**
- 1:30 Yong Li**, Y. J. Wang, K. Y. Jiang  
INFLUENCE OF SEVERAL NON-NUTRIENT ADDITIVES ON NONSPECIFIC IMMUNITY AND GROWTH OF JUVENILE TURBOT *Scophthalmus maximus* L.
- 1:45 John W. Sweetman**, Chris Wallace, Ray Waddell, Dave Cokerill, Gordon Ritchie  
AQUATE® SPMP STIMULATES MUCOSAL PRODUCTION, IMPROVES GUT HEALTH AND ACTS TO SIGNIFICANTLY REDUCE SEA LICE INFECTIONS IN SALMON
- 2:00 John W. Sweetman**, Bjarne Ravnoy, Freddy Johnsen, Johan Johansen, Patrick Reynolds, Arkadios Dimitroglou, Simon J. Davies  
THE EFFECT OF A SPECIFIC MANNAN OLIGOSACCHARIDE (BIO-MOS, ALLTECH) SUPPLEMENTATION ON THE ALLEVIATION OF GUT STRUCTURAL CHANGES INDUCED BY PLANT PROTEIN RICH DIETS IN SALMON *Salmo salar*
- 2:15 Simon Davies**, Arkadios Dimitroglou, Daniel L. Merrifield, Roy Moate, Simon J. Davies, Peter Spring, Graham Bradley

DIETARY MANNAN OLIGOSACCHARIDE SUPPLEMENTATION MODULATES INTESTINAL MICROBIAL ECOLOGY AND IMPROVES GUT MORPHOLOGY OF RAINBOW TROUT *Oncorhynchus mykiss*

- 2:30 Mohamed Adhulkader Haniffia**, Mohamed Adhulkader Haniffa, Rathakrishnan Arthimanju, Arul Victorsuresh, Muthukrishnan Dhanaraj, Chidambaram Muthu Ramakrishnan, S. Vijayakasavasingh Arunsingh  
EFFECT OF EFINOL® FG INCORPORATED DIETS ON GROWTH RESPONSE OF STRIPED SNAKEHEAD *Channa striatus*

### MARINE FINFISH CONTRIBUTED

Friday, March 5 8:30 - 3:00 Royal Palm Salon 2

Chairs: Amber Garber, Dennis McIntosh

- 8:30 Tomas Cabrera**, Jesus Leon, Seiri Valero, Marisol Silva, Ernesto Mata, Jesus Rosas, Aide Velasquez, Enrique Edo, Luciano Mayronas  
SET UP OF GRANMACOST A MARINE FISH HATCHERY IN VENEZUELA
- 8:45 Nicolas Mace**, Pierre Bosc, Michael Schwarz, Frederic Gaumet, Marie-Claude Babet, Vincent Bernier  
DOMESTICATION OF A NEW TROPICAL SPECIES IN THE UNIQUE CONDITIONS OF REUNION ISLAND: THE COBIA *Rachycentron canadum*
- 9:00 Bruno Sardenberg**, Daniel Benetti, Aaron Welch, Ronald Hoenig, John Stieglitz  
COBIA *Rachycentron canadum* AQUACULTURE TECHNOLOGY AT UNIVERSITY OF MIAMI EXPERIMENTAL HATCHERY
- 9:15 Øyvind J. Hansen**, Velmurugu Puvanendran, Atle Mortensen  
IMPORTANCE OF BROODSTOCK HOLDING TEMPERATURE ON EGG OUTPUT AND EGG QUALITY IN THREE GROUPS OF PHOTO-MANIPULATED ATLANTIC COD BROODSTOCK
- 9:30 Angel Herrera-Ulloa**, Jonathan Chacón-Guzmán, Gerardo Zúñiga-Calero, Ricardo Jiménez-Montealegre  
SPOTTED ROSE SNAPPER *Lutjanus guttatus* JUVENILE PRODUCTION ON LABORATORY FOR SUSTAINABLE AQUACULTURE
- 9:45 Luz Estela Rodríguez-Ibarra**, María Isabel Abdo-de la Parra, Gustavo A. Rodríguez-Montes de Oca, Virginia Patricia Domínguez Jiménez, Gabriela Velasco-Blanco, Noemí García Aguilar  
UTILIZATION OF NATURAL PRODUCTS FOR ADHESIVENESS ELIMINATION OF BULLSEYE PUFFERS FISH *Sphoeroides annulatus* EGGS
- 10:00 BREAK**
- 10:30 Yong Li**, Ke-yong Jiang, Ting-ting Gao, Mei-Qin Wang, Lei Wang  
THE DIETARY PROTEIN ECO-NUTRITION REQUIREMENT AND IT'S RHOMB CHARACTERISTIC IN JUVENILE TURBOT
- 10:45 Imad Patrick Saoud**, Abir Barakat  
EFFECTS OF FEED REGIMEN ON GROWTH, CONDITION AND PROXIMATE ANALYSIS OF JUVENILE SPINEFOOT RABBITFISH *Siganus rivulatus*
- 11:00 Karolina Kwasek**, Michal Wojno, Genciana Terova, Teresa Ostaszewska, Macdonald Wick, Konrad Dabrowski  
THE EFFECT OF THE DIPEPTIDE, LYS-GLY, SUPPLEMENT ON GROWTH, MUSCLE PROTEINS AND PEPT1 GENE EXPRESSION IN JUVENILE YELLOW PERCH
- 11:15 Iqbal Khan M.**  
FEEDING HABITS AND FEEDING PATTERN OF THE JAPANESE SILVER-BIDDY *Gerres equulus* IN THE COASTAL WATERS OF SOUTHERN KYUSHU, JAPAN
- 11:30 Amber F. Garber**, Susan E. Fordham, Gary Simpson, Marlies Rise, Jane J. Tosh, J. Andrew B. Robinson, Jane E. Symonds, Sharen Bowman, Edward A. Trippel  
THREE YEAR CLASSES OF COMMUNALLY REARED FAMILIES OF ATLANTIC COD *Gadus morhua*: DIFFERENTIAL SURVIVAL AND PERFORMANCE

- 11:45 Jeff Smiley**, Mark Drawbridge  
THERMAL PREFERENCE AND TOLERANCE OF WHITE SEABASS *Atractoscion nobilis*
- 12:00 LUNCH**
- 1:30 Michael Cinelli**, Dennis McIntosh  
IS THE WEAKFISH *Cynoscion regalis* A GOOD CANDIDATE SPECIES FOR AQUACULTURE PRODUCTION?
- 1:45 Graham Mair**, Wayne Knibb, Nick Robinson, Abigail Elizur, Penny Miller, Mike Gardner, Mike Thomson  
TOWARDS GENETIC IMPROVEMENT OF YELLOWTAIL KINGFISH *Seriola lalandi* IN AUSTRALIA
- 2:00 Isaura Bañuelos Vargas**, Lus M. López, Maricela Flores, Jorge Olmos-Soto, Mark Drawbridge  
GROWTH PERFORMANCES AND HEMATOLOGICAL RESPONSES OF WHITE SEABASS *Atractoscion nobilis* JUVENILES FED WITH DIFFERENT DIGESTIBLE PROTEIN LEVELS IN DIETS SUPPLEMENTED WITH STARCH AND PROBIOTIC
- 2:15 Aaron Watson**, Matteo Avella, Oliana Carnevali, Ernest Williams, Allen Place  
EFFECTS OF *Lactobacillus rhamnosus* ON THE GROWTH AND SURVIVAL OF LARVAL COBIA *Rachycentron canadum*
- 2:30 Angelos Apeitos**, Jason T. Lemus, Reginald B. Blaylock  
ADVANCES IN INTENSIVE PRODUCTION OF FINGERLING SPOTTED SEATROUT *Cynoscion nebulosus* AT THE GULF COAST RESEARCH LABORATORY
- 2:45 Tomas Cabrera**, Jesús León, Marisol Silva, Ernesto Mata, Jesús Rosas and Darryl Jory  
START-UP OF GRANMACOST, A MARINE FISH HATCHERY IN VENEZUELA

### SHELLFISH CONTRIBUTED

Friday, March 5 8:30 - 5:30 Royal Palm Salon 4

Chairs: Steve Allen, Nature McGinn

- 8:30 John Scarpa**, Susan Laramore  
CHARACTERIZATION OF EASTERN OYSTER *Crassostrea virginica* POPULATIONS AT THREE SITES IN LAKE WORTH LAGOON, FLORIDA
- 8:45 Jeffrey Levinton**, Adam Starke, David Ralston, Michael Doall, Shauna Kuhn, Bassem Allam  
INCREASED RAINFALL, WATERSHED DISCHARGE, AND POTENTIAL CLIMATE CHANGE EFFECTS ON IMPORTANT OYSTER HABITAT
- 9:00 Susan E. Laramore**, John Scarpa, Roger I. E. Newell, Chris Kelly, Christopher F. Dungan, Carol B. McCollough, Ryan B. Carnegie  
POTENTIAL IMPACT OF THE SUMINOE OYSTER *Crassostrea ariakensis* IN A SUB-TROPICAL ECOSYSTEM
- 9:15 Kerri Pryce**, Dahniel Samuel, Mathilde Myrthil, Margaret Carroll, Edward Catapane  
PRESENCE OF OCTOPAMINE IN HEMOLYMPH AND TISSUES OF *Crassostrea virginica* AND ITS POSSIBLE ROLE AS A CARDIO-REGULATORY HORMONE
- 9:30 Anthony Ilano**, Alexis Mae Carabio, Charlito Orobio, Filipina Sotto  
EMBRYONIC DEVELOPMENT, AND GROWTH AND SURVIVAL OF INDIAN VOLUTE *Melo melo* HATCHLINGS UNDER LABORATORY CONDITIONS
- 10:00 BREAK**
- 10:30 Gabrielle Lesur-Irichabeau**, Patrick Point  
ECONOMIC EVALUATION OF DEGREE OF DEPENDENCE TO A CHANGE IN WATER TEMPERATURE: APPLICATION TO THE ARCACHON BAY'S OYSTER FARMS
- 10:45 Scott Lindell**, Inke Sunila, Ximing Guo, Paul Rawson  
FIELD TRIALS OF EASTERN OYSTERS *Crassostrea virginica* CROSS-BRED FOR DISEASE RESISTANCE, PART I: MORTALITY, GROWTH, AND YIELD DATA

- 11:00** **Jurica Jug Dujakovic**, Ana Gavrilovic, Ana Ljubicic, Alexis Conides  
THE USE OF THE DIATOM *Cylindrotheca closterium* IN THE FEEDING OF *Ostrea edulis* LARVAE
- 11:15** **James C. Widman Jr.**, David J. Veilleux, Mark Dixon  
AUTOMATED DEMAND FEEDING OF BAY SCALLOP *Argopecten irradians irradians* LARVAE
- 11:30** **Shirley Baker**, Leslie N. Sturmer, John Scarpa  
HYBRID CLAMS *Mercenaria mercenaria*, *M. campechiensis* FOR FLORIDA, USA, AQUACULTURE: LABORATORY EVALUATION
- 11:45** **Robert Bishop**  
A FULLY INTEGRATED ABALONE FARMING STRUCTURE USING A MARINE ENVIRONMENTAL AQUACULTURE RECIRCULATION SYSTEM
- 12:00** **LUNCH**
- 1:30** **Yue Gui**, Andrew Jeffs, Nancy Nevejan  
THE EFFECT OF MICROALGAL AND FORMULATED DIETS ON THE PERFORMANCE OF GREEN-LIPPED MUSSEL SPAT *Perna canaliculus*
- 1:45** **Shaunna Harris**, Terrence Tiersch  
CRYOPROTECTANT AND CHILL TOLERANCE IN *Artemia franciscana*
- 2:00** **Sandy Macfarlane**, Gef Flimlin, Kathy Rhodes, Ed Rhodes  
BEST MANAGEMENT PRACTICES AND THE EAST COAST SHELLFISH AQUACULTURE INDUSTRY: A BOTTOM-UP APPROACH
- 2:15** **Brett Dumbauld**  
MANAGING SHELLFISH AQUACULTURE AT THE LANDSCAPE SCALE IN WILLAPA BAY, WASHINGTON AND SIMILAR U.S. WEST COAST ESTUARIES
- 2:30** **Hee-Do Jeung**, Do-Hyung Kang, Heung-Sik Park, Kwang-Sik Choi  
DEVELOPMENT OF AN IMMUNOLOGICAL PROBE TO QUANTIFY REPRODUCTIVE EFFORT OF BLACK LIP PEARL OYSTER *Pinctada margaritifera* USING ENZYME-LINKED IMMUNOSORBENT ASSAY (ELISA)
- 2:45** **Aswani Volety**, Patricia Goodman, Patricia Gorman, Lesli Haynes, Lacey Smith  
OYSTER *Crassostrea virginica* HEALTH, REPRODUCTION AND LARVAL RECRUITMENT AS INDICATORS OF THE INFLUENCE OF MANAGED FRESHWATER INFLOWS IN THE CALOOSAHATCHEE ESTUARY, FLORIDA
- 3:30** **Aswani Volety**, Holly Abeels, Andrew Griffith, Aurelie Perrin, Marine Fondacci, Aurelie Glachant, Scott Rikard, Peter Doering, Miao-Li Chang, Teresa Coley, Madeleine Goncalves  
EFFECTS OF SALINITY ON THE EARLY LIFESTAGES OF OYSTERS *Crassostrea virginica*
- 3:45** **Marcelo Garcia Guerrero**, Pedro Hernández Sandoval  
TEMPERATURE EFFECT ON GROWTH, SURVIVAL AND THERMAL PREFERENDUM OF REDCLAW CRAYFISH *Cherax quadricarinatus* (VON MARTENS 1898) JUVENILES

## RELATIONSHIPS BETWEEN SESTON (QUALITY, QUANTITY, TOXICITY) AND BIVALVE AQUACULTURE

Friday, March 5 8:30 - 3:00 Pacific Salon 5  
Chair: Philippe Soudant

- 8:30** **J. Evan Ward**  
INTERACTIONS BETWEEN SUSPENSION FEEDING BIVALVES AND MARINE AGGREGATES
- 8:45** **Emmanuelle Pales Espinosa**, Mickael Perrigault, Sandra Shumway, Evan Ward, Bassem Allam  
UNRAVELING THE FINE MECHANISMS OF PARTICLE SORTING IN SUSPENSION-FEEDING BIVALVES
- 9:00** **Fabrice Pernet**, Jean Barret, Claire Marty, Jeanne Moal, Patrik Le Gall, Pierre Boudry  
ENVIRONMENTAL ANOMALIES, ENERGETIC RESERVES AND FATTY ACID MODIFICATIONS IN OYSTERS COINCIDE WITH AN EXCEPTIONAL MORTALITY EVENT

- 9:15 Maria Rosa**, J. Evan Ward, Sandra E. Shumway, Emmanuelle Pales-Espinosa, Bassem Allam, Gary H. Wikfors, Bridget A. Holohan  
EFFECTS OF PARTICLE SURFACE PROPERTIES ON FEEDING SELECTIVITY BY THE EASTERN OYSTER *Crassostrea virginica* AND THE BLUE MUSSEL *Mytilus edulis*
- 9:30 Mark S. Dixon**, Karen Rivara, Yaqin Li, Shannon L. Meseck, Julie Rose, Barry C. Smith, Gary H. Wikfors  
QUANTIFYING EFFECTS OF BIVALVE AQUACULTURE UPON PLANKTON AND NUTRIENT DYNAMICS: MOVING FROM THEORY TO PRACTICE
- 9:45 Helga Guderley**, Hernan Pérez, Katherina Brokordt, Edouard Kraffe  
FEEDING WITH MONOSPECIFIC ALGAL DIETS DECREASES OXIDATIVE CAPACITIES OF MITOCHONDRIA FROM MUSCLE, MALE AND FEMALE GONADS OF *Argopecten purpuratus*
- 10:00 BREAK**
- 10:30 Bongkyu Kim**, Hee-Jung Lee, Hee-Do Jung, Ludovic Donaghy, Kwang-Sik Choi  
QUANTIFICATION OF REPRODUCTIVE EFFORT IN THE SUMINOE OYSTER *Crassostrea ariakensis* USING ENZYME-LINKED IMMUNOSORBENT ASSAY (ELISA)
- 10:45 Gary Wikfors**, Jose Giner, Hui Zhao, Mark Dixon  
METABOLISM OF PHYTOSTEROLS BY BAY SCALLOPS: RESULTS FROM STABLE-ISOTOPE LABELING STUDIES
- 11:00 Philippe Soudant**, Edouard Kraffe, Jeanne Moal, Yanic Marty  
IMPACT OF ENVIRONMENTAL VARIABILITY UPON BIOCHEMICAL COMPOSITION OF BIVALVES: AN ISSUE FOR HUMAN NUTRITIONAL CONSIDERATION?
- 11:15 Marianne Alunno-Bruscia**, Yves Bourlès, Ismaël Bernard, Karine Grangeré, Benjamin Rico-Villa, Antoine Emmery, Yoan Thomas, Jonathan Flye Sainte Marie  
WHAT THE DYNAMIC ENERGY BUDGET THEORY CAN TELL US ABOUT THE ECO-PHYSIOLOGY OF BIVALVES?
- 11:30 Hélène Hégaret**, Patricia Mirella da Silva, Gary H. Wikfors, Inke Sunila, Eva Galimany, Hansy Haberkorn, Sandra E. Shumway, Philippe Soudant  
INTERACTIONS BETWEEN HABITS AND BIVALVES AT THE CELLULAR LEVEL
- 11:45 Eve Galimany**, Inke Sunila, Hélène Hégaret, Montserrat Ramón, Gary H. Wikfors  
CONTRASTING RESPONSES OF BLUE MUSSELS TO TWO DIFFERENT HAB SPECIES
- 12:00 LUNCH**
- 1:30 Hansy Haberkorn**, Christophe Lambert, Nelly Le Goïc, Patrick Lassus, Inke Sunila, Jeanne Moal, Jean-Charles Massabuau, Damien Tran, Marc Suquet, Philippe Soudant  
IMPACT OF *Alexandrium minutum* EXPOSURE ON *Crassostrea gigas* PHYSIOLOGY: AN INTEGRATIVE APPROACH
- 1:45 V. Monica Bricelj**, Luiz L. Mafra Jr.  
PARALLELS IN THE RESPONSE OF PELAGIC AND BENTHIC GRAZERS TO TOXIC ALGAE AND FOOD WEB CONSEQUENCES
- 2:00 Andrew Griffith**, Sandra Shumway, Aswani Volety  
BIOACCUMULATION AND DEPURATION OF BREVETOXINS IN *Mercenaria mercenaria* AND *Crassostrea virginica*
- 2:15 Sandra Shumway**, Hélène Hégaret  
HARMFUL ALGAL BLOOMS, REPRODUCTION AND RECRUITMENT IN MOLLUSCAN SHELLFISH: IMPLICATIONS FOR ENHANCEMENT EFFORTS

## QUAGGA MUSSELS IN THE WEST: MONITORING AND MANAGEMENT

Friday, March 5 8:30 - 5:30 Royal Palm Salon 6

Chairs: David Wong, Shawn Gerstenberger

- 8:30 Thomas Nalepa**  
DISTRIBUTION, POPULATION TRENDS, AND ECOLOGICAL IMPACTS OF QUAGGA MUSSEL *Dreissena rostriformis bugensis* IN THE GREAT LAKES REGION
- 8:45 Bryan Moore**  
THE FIRST CONFIRMED CASE OF DREISSENID MUSSELS IN THE WESTERN UNITED STATES: DISCOVERY, DISTRIBUTION, AND GROWTH OF ADULT QUAGGA MUSSELS IN LAKES MEAD AND MOHAVE
- 9:00 G. Chris Holdren, David Wong, Denise Hosler**  
SPREAD AND ABUNDANCE OF QUAGGA MUSSEL VELIGERS IN LAKE MEAD, NEVADA-ARIZONA FROM 2007 TO 2009
- 9:15 Denise Hosler**  
EARLY DETECTION OF ZEBRA/QUAGGA MUSSELS IN YOUR WATER SYSTEM
- 9:30 Leif Elgethun**  
NEW METHOD TO DETECT AND IDENTIFY INVASIVE BIVALVES USING A CONTINUOUS IMAGING PARTICLE ANALYZER (FLOWCAM®)
- 9:45 Shawn Gerstenberger**  
MONITORING THE QUAGGA MUSSEL *Dreissena bugensis* IN LAKE MEAD WITH DIFFERENT ARTIFICIAL SUBSTRATES
- 10:00 BREAK**
- 10:30 Dong Chen, Shawn Gerstenberger, David Wong, Sara Muetting**  
SUBSTRATE ROUGHNESS AND FLOW VELOCITY ARE CRITICAL FACTORS AFFECTING SETTLEMENT OF QUAGGA MUSSELS IN LAKE MEAD
- 10:45 Kent Turner**  
INTERAGENCY MONITORING ACTION PLAN (I-MAP): QUAGGA MUSSELS IN THE LOWER COLORADO RIVER BASIN
- 11:00 Gerald J. Hickman, Dana M. Anat**  
QUAGGA MUSSEL STUDIES ON LAKE HAVASU
- 11:15 Alexander Karatayev, Lyubov Burlakova, Sergey Mastitsky, Dianna Padilla, Edward Mills**  
INVASION PARADOX: WHO IS THE BETTER INVADER – ZEBRA MUSSEL OR QUAGGA MUSSEL?
- 11:30 Lyubov Burlakova, Alexander Karatayev**  
*Dreissena polymorpha*: POPULATION DYNAMICS, DENSITIES, EFFECT ON BENTHIC COMMUNITIES AND CONSEQUENCES FOR ECOSYSTEM FUNCTIONING
- 12:00 LUNCH**
- 1:30 Hongyan Zhang, David Culver, Leon Boegman**  
DREISSENIDS IN LAKE ERIE: AN ALGAL FILTER OR A FERTILIZER?
- 1:45 David Wong**  
POTENTIAL IMPACTS OF INVASIVE QUAGGA MUSSELS *Dreissena bugensis* ON CHLOROPHYLL, WATER CLARITY, AND ZOOPLANKTON IN LAKE MEAD, NEVADA-ARIZONA, USA
- 2:00 Chad Cross, David Wong**  
ESTIMATION OF CARRYING CAPACITY OF QUAGGA MUSSELS IN THE BOULDER BASIN OF LAKE MEAD, NEVADA-ARIZONA
- 2:15 Leonard Willett**  
LOWER COLORADO RIVER – CONTROL ACTIVITIES FOR INVASIVE MUSSELS

- 2:30 Allen Skaja**  
COATINGS FOR QUAGGA MUSSEL CONTROL
- 2:45 Sandee Dingman, David Britton**  
OPERATIONAL GUIDELINES FOR CLEANING WILDLAND FIREFIGHTING EQUIPMENT EXPOSED TO AQUATIC INVASIVE SPECIES
- 3:00 BREAK**
- 3:30 Douglas Ball**  
PREVENTION, MONITORING, AND POTENTIAL CONTROL MEASURES FOR QUAGGA MUSSELS AT LOS ANGELES DEPARTMENT OF WATER AND POWER
- 3:45 Mark Hatcher, Don Thomson**  
DEVELOPMENT OF THE SWEETWATER AUTHORITY DREISSENID MUSSEL MONITORING, RESPONSE, AND CONTROL PLAN
- 4:00 Stephen Phillips, William Zook**  
RECOMMENDED UNIFORM MINIMUM PROTOCOLS AND STANDARDS FOR WATERCRAFT INTERCEPTION PROGRAMS FOR DREISSENID MUSSELS
- 4:15 Ronald Smith**  
WESTERN RESPONSE TO QUAGGA AND ZEBRA MUSSELS (QZAP)

## **PROGRESS IN MARINE RECIRCULATING AQUACULTURE SYSTEMS - AES**

Friday, March 5 8:30 - 5:30 Sunrise Room  
Chair: Asbjorn Bergheim

- 8:30 Jean Paul Blancheton, Oliver Schneider, Bjorn-Steinar Saether, Luigi Michaud, Joël Aubin, Emmanuelle Roque d'Orbcastel**  
RECIRCULATION SYSTEMS IN EUROPE: STATE OF THE ART AND PROSPECTS
- 9:00 Raul H. Piedrahita, Thomas M. Losordo, German E. Merino**  
STATUS OF MARINE RECIRCULATION SYSTEMS IN THE AMERICAS
- 9:30 Liu Ying**  
THE MARINE RAS IN CHINA – PRESENT STATE AND PERSPECTIVE
- 9:45 William Wolters, Amanda Masters, Brian Vinci, Steve Summerfelt**  
RECIRCULATING SYSTEMS FOR ATLANTIC SALMON *Salmo salar* AT THE USDA ARS NATIONAL COLD WATER MARINE AQUACULTURE CENTER (FRANKLIN, MAINE)
- 10:00 BREAK**
- 10:30 Asbjørn Drengstig, Asbjørn Bergheim**  
SINGLE CAGE TECHNOLOGY FOR ON-GOING OF EUROPEAN LOBSTER IN RAS
- 10:45 German Merino, Daniela Medel, Christian Otarola, Maria Troncoso, Rocio Tapia, Bernardo Valenzuela, Joel Barraza**  
BIOENGINEERING RESEARCH TOWARDS RECIRCULATING AQUACULTURE SYSTEM DESIGN FOR CHILEAN ABALONE FARMS
- 11:00 Kari Attramadal, Ingrid Salvesen, Gunvor Øie, Renyu Xue, Trond Størseth, Olav Vadstein, Yngvar Olsen**  
RECIRCULATION AS A MICROBIAL CONTROL STRATEGY IN INTENSIVE AQUACULTURE OF MARINE LARVAE
- 11:15 Steven Summerfelt, Michael Gearheart, Barnaby Watten**  
COMPARING CARBON DIOXIDE STRIPPING COLUMN PERFORMANCE IN FRESHWATER AND SEAWATER

- 11:30 Damian Moran**  
CARBON DIOXIDE STRIPPING EFFICIENCY OF A CASCADE COLUMN IN FRESH WATER VERSUS SALINE WATER
- 11:45 Mark Sharrer**, Yossi Tal, Drew Ferrier, Joseph Hankins, Steven Summerfelt  
MEMBRANE BIOLOGICAL REACTOR TREATMENT OF A SALINE BACKWASH FLOW FROM A RECIRCULATING AQUACULTURE SYSTEM
- 12:00 LUNCH**
- 1:30**
- 1:45 Paul Hightower**, James Ebeling, Douglas Drennan  
USDA SBIR FUNDED DENITRIFICATION RESEARCH/TECHNOLOGY USING BIODEGRADABLE BIOPOLYMER (PHA's)
- 2:00 Steven Hall**, Milton Saidu, Praveen Kolar  
A REVIEW OF CONTROLLED INDEPENDENT RECIRCULATING CULTURE SYSTEMS FOR OYSTERS *Crassostrea virginica* AND OTHER MARINE SPECIES
- 2:15 Ronald Malone**, Ryan Hearn  
GAS TRANSFER CHARACTERISTICS OF AN AIRLIFTED-BEAD FILTER COMBINATION SUPPORTING A WARMWATER OLIGOTROPHIC MARINE YELLOWTAIL *Seriola lalandi* BROODSTOCK SYSTEM
- 2:30 Timothy Pfeiffer**, Paul S. Wills, Marty Riche  
DESIGN, LOADING, AND WATER QUALITY IN RECIRCULATING SYSTEMS FOR LOW SALINITY FINFISH SPECIES AT THE USDA ARS SUSTAINABLE MARINE AQUACULTURE SYSTEMS FACILITY (FORT PIERCE, FLORIDA)
- 2:45 Rebecca Tabor**, Ronald Malone  
CROSS-FLOWING OF SMALL CLUSTERS OF AIRLIFTED/POLYGEYSER® FILTERED TANKS AS A MEANS OF IMPROVING RAS PRODUCTION RATES
- 3:00 Min Jiang**, Weiling Zang, Xilin Dai, Min Yang  
BRIEF INTRODUCTION ON THE INDOOR RECIRCULATING SYSTEMS FOR INTENSIVE *Litopenaeus vannamei* CULTURE

## TUNA CULTURE

Friday, March 5 8:30 - 5:30 Pacific Salon 3  
Chairs: William H. Neill, Barry Costa-Pierce, Alejandro Buentello

- 8:30 Gavin Partridge**, Daniel Benetti, Jhon Hutapea, Adrian McIntyre, Benan Chen, Wayne Hutchinson, Vernon Scholey, Dan Margulies  
THE EFFECT OF A 24-HOUR PHOTOPERIOD ON THE GROWTH AND SURVIVAL OF PRE-FLEXION YELLOWFIN TUNA *Thunnus albacares* LARVAE
- 8:45 John Stieglitz**, Daniel D. Benetti, Ronald H. Hoenig, Aaron W. Welch, Patrick B. Brown, Bruno Sardenberg, Sasa A. Miralao  
CAPTURE, TRANSPORT AND ACCLIMATION TO CAPTIVITY OF BLACKFIN TUNA *Thunnus atlanticus*: DEVELOPING A BROODSTOCK POPULATION
- 9:00 Daniel Margulies**, Vernon Scholey, Jeanne Wexler, Maria Santiago  
RESEARCH ON REPRODUCTIVE BIOLOGY AND EARLY LIFE HISTORY OF YELLOWFIN TUNA AT THE IATTC'S ACHOTINES LABORATORY, REPUBLIC OF PANAMA
- 9:15 Maritza Anguiano**, J. Alejandro Buentello, William H. Neill, Robert Taylor, Felipe Ascencio, Delbert M. Gatlin III  
BIO-REDUCTION OF THE ORGANIC MERCURY CONCENTRATION FROM MUSCLE OF CULTURED TUNA
- 9:30 Alejandro Buentello**, Maritza Anguiano, Camilo Pohlenz, Todd Sink, William H. Neill, Felipe Ascencio, Delbert M. Gatlin III

PHYSIOLOGICAL INDICATORS FOR TUNA CULTURED IN SEA CAGES, II: PRELIMINARY  
CONSIDERATIONS FOR PREVENTION OF THE BURNT-FLESH SYNDROME

- 9:45** **Barbara Block**, Charles Farwell, Nishad Jayasundara, Luke Gardner, Pedro Castillo, Luis Rodriguez  
MONITORING CAPTIVE PACIFIC BLUEFIN POPULATIONS WITH PHYSIOLOGY, GENOMICS AND  
ELECTRONIC TAGS
- 10:00** **BREAK**
- 10:30** **Eric Pedersen**, Rex Ito  
MARINE AQUACULTURE OF PACIFIC BLUEFIN TUNA *Thunnus orientalis* IN ENSENADA, BAJA CALIFORNIA  
MEXICO: A SUSTAINABLE APPROACH
- 10:45** **Felipe Aguado-Giménez**, Benjamín García-García  
A MASS-BALANCE APPLIED TO BLUEFIN TUNA *Thunnus thynnus* FATTENING
- 11:00** **Hamish Aiken**, Craig Hayward, Nathan Bott, Barbara Nowak  
PARASITES AND THEIR EFFECT ON THE HEALTH OF FARMED SOUTHERN BLUEFIN TUNA
- 11:15** **Sita Balshsw**, John W. Edwards, David Ellis, David J. Padula, Ben J. Daughtry, Kirstin E. Ross  
TEMPORAL AND SPATIAL VARIABILITY IN THE MERCURY AND LIPID CONTENT OF FARMED SOUTHERN  
BLUEFIN TUNA *Thunnus maccoyii*: IMPLICATIONS FOR FARM MANAGEMENT PRACTICES AND  
CONSUMER SAFETY
- 12:00** **LUNCH**
- 1:30** **Maria Teresa Viana**, Maria Teresa Viana, Emmanuel Martinez-Montano, Emyr Peña-Luna  
THE USE OF EVERTED INTESTINE TO STUDY PROTEIN ASSIMILATION IN THE PACIFIC BLUEFIN TUNA  
*Thunnus orientalis*
- 1:45** **Aldo Corriero**, Carla De Giorgi, Constantinos Mylonas, Chrysovalentinos Pousis, Nicoletta Santamaria, Rosa  
Zupa, Michele Deflorio, Robert Vassallo-Agius, Fernando de la Gandara, Antonio Belmonte Rios, Gregorio De  
Metrio  
NORMAL FEMALE VITELLOGENESIS AND INCREASE IN MALE GERM CELL APOPTOSIS IN CAPTIVE  
REARED BLUEFIN TUNA *Thunnus thynnus* L.
- 2:00** **Kenji Takii**, Biswajit Biswas, Aya Yoshida, Kazuya Sakoguchi, Yuma Ikeue, Amal Biswas  
NEEDS OF TAURINE, FEEDING STIMULANT AND LECITHIN IN ENZYME TREATED FISH-MEAL DIET FOR  
JUVENILE PACIFIC BLUEFIN TUNA
- 2:15** **Amal Biswas**, Haya Satoh, Biswajit Biswas, Yang-Su Kim, Jun-ichi Ito, Kenji Takii  
LOW COST ALTERNATIVE PROTEIN SOURCES INSTEAD OF ENZYME TREATED FISH MEAL FOR  
JUVENILE PACIFIC BLUEFIN TUNA *Thunnus orientalis*
- 2:30** **Yasuo Agawa**, Yoshifumi Sawada  
CLONING OF PEROXISOME PROLIFERATORS ACTIVATED RECEPTOR GAMMA IN PACIFIC BLUEFIN  
TUNA AND ITS PHYLOGENETIC ANALYSIS
- 2:45** **Juan Vaca-Rodríguez**, Raul del-Moral-Simanek, Charles Yarish, José A. Zertuche-González, Oscar Sosa-  
Nishizaki, Barry A. Costa-Pierce  
ANALYSIS OF THE SUSTAINABILITY OF CAPTURE-BASED TUNA AQUACULTURE (CBTA) FOR THE  
NORTHERN BLUEFIN TUNA *Thunnus orientalis* OFF ENSENADA, BAJA CALIFORNIA, MEXICO

**TILAPIA RESEARCH AND AMERICAN TILAPIA ASSOCIATION UPDATE**

Friday, March 5 8:30 - 5:30 California Room  
Chair: Kevin Fitzsimmons

- 8:30** **Mala Basu**, B. B. Jana  
X-RAY-INDUCED CHANGES IN REPRODUCTIVE POTENTIALITIES OF MOZAMBIQUE TILAPIA

- 8:45 Marilou G. Directo**, Ireneo G. Bongco, Remedios B. Bolivar  
PHYTOPLANKTON COLOR CHART (PCC) FROM PURE CULTURES AND FIELD POPULATION AS AN EFFECTIVE TOOL FOR AQUACULTURE MANAGEMENT
- 9:00 Tekie Anday**, Kaoline Young  
EFFICACY OF GROWSTONE AS A FILTER MEDIA FOR AQUACULTURE APPLICATIONS
- 9:15 Cesar A. Hernandez**, Kevin Fitzsimmons  
COMPARATIVE ANALYSIS BETWEEN POLYCULTURE AND MONOCULTURE SYSTEMS TO MEASURE THE EFFECT OF TILAPIA FISH *Oreochromis niloticus* ON THE PRODUCTION OF SHRIMP *Litopenaeus vannamei* IN A WATER RECIRCULATION SYSTEM
- 9:30 Rafael Martinez-Garcia**, Raul Ponzoni, Nguyen Nguyen Hong, Khairul Rizal Abu Bakar, Stephen Nelson, Kevin Fitzsimmons  
EFFECTS OF SALINITY ON GROWTH AND SURVIVAL OF GIFT TILAPIA *Oreochromis niloticus* AND RED HYBRID TILAPIA *Oreochromis niloticus* x *Oreochromis mossambicus*
- 9:45 Larry Riley**, Kelli Upton, Whitney Janzen  
ENDOCRINE CONTROL OF APPETITE DURING STRESS IN THE TILAPIA *Oreochromis mossambicus*
- 10:00 BREAK**
- 10:30 Sidrotun Naim**  
THE POTENTIAL OF ANTIBACTERIAL ACTIVITY AND GREEN WATER PRODUCED BY GENETICALLY SUPERMALE INDONESIAN TILAPIA IN REDUCING VIBRIO ATTACK AND STIMULATING IMMUNE SYSTEM OF SHRIMP
- 10:45 Mario Hernandez-Acosta**, Ramon Casillas-Hernandez, J. Cuauhtemoc Ibarra-Gamez, Fernando Lares-Villa, Rodrigo Otero, Kevin Fitzsimmons  
POSITIVE EFFECTS OF DIETS SUPPLEMENTED WITH NUTRAFITO PLUS ON THE GROWTH OF PACIFIC WHITE SHRIMP *Litopenaeus vannamei*: A REVIEW
- 11:00 Konrad Dabrowski**  
THE EFFECTS OF DIETARY POLY- $\beta$ -HYDROXYBUTYRATE AND ASCORBIC ACID ON GROWTH, FEED UTILIZATION AND SURVIVAL RATE OF TILAPIA *Oreochromis niloticus* JUVENILES
- 11:15 Esteban Soto**, Judy Wiles, Ronald Thune, Phillip Elzer, Kevin Macaluso, John Hawke  
ATTENUATED *Francisella noatunensis* iglC MUTANT INDUCES PROTECTIVE IMMUNITY TO FISH FRANCISELLOSIS IN TILAPIA NILOTICA *Oreochromis niloticus*
- 11:30 Emily Stutzman**, Joseph Molnar  
WHAT FACTORS CONTRIBUTE TO PRODUCTIVE GROUP-BASED TILAPIA AQUACULTURE IN RURAL UGANDA?
- 11:45 Luisa Villamil**, Diego F. Ardila, Ma. Angelica Martinez, Lina M. Mejia  
EVALUATION OF SYNERGISM AMONG BATERIAL MIXTURE AS FOOD SUPPLEMENTATION ON NILE TILAPIA *Oreochromis niloticus* GROWTH AND SURIVAL RATE
- 12:00 LUNCH**
- 1:30 Luisa Villamil**, Diego F. Ardila, Carolina Noguera, Ma. Angelica Martinez, Lina M. Mejia  
NATIVE BACTERIA ISOLATION FROM NILE TILAPIA *Oreochromis niloticus* AND THEIR USE AS A POSSIBLE PROBIOTIC
- 1:45 Maria Lourdes Cuvin-Aralar**, Philip Gibbs, Adelaida Palma, Aida Andayog, Lydia Noblefranca  
EFFECT OF DIFFERENT FEEDING MANAGEMENT SCHEMES ON THE AQUACULTURE PRODUCTION OF NILE TILAPIA *Oreochromis niloticus* IN LAKE BATO, CAMARINES SUR, PHILIPPINES
- 2:00 Tri Nguyen**, Hanh Nguyen  
DETERMINATION OF SUITABLE FEEDING FREQUENCY AND RATIO FOR NILE TILAPIA *Oreochromis niloticus* JUVENILE

- 2:15 **Kevin Fitzsimmons**, Sidrotun Naim, Khalid Alghanim  
TILAPIA: 2009 STATE OF THE INDUSTRY REPORT
- 2:45 **W. Varano**  
ATA UPDATE
- 3:00 **BREAK**
- 3:00 **R. Garcia-Martinez**  
ATA – ISTA UPDATE
- 3:15 **K. Fitzsimmons**  
TREASURER'S REPORT
- 3:30 **W. Varano**  
ATA ANNUAL MEETING

### PARASITES AND FISH HEALTH

Friday, March 5 8:30 - 5:30 Royal Palm Salon 5  
Chairs: Andy Goodwin, Mark Gaikowski, Andrew Mitchell

Moderator: Mark Gaikowski

- 8:30 **Maren Tuttle-Lau**, Eric Leis, Kurt Schilling, Mark Gaikowski, Dale Bast  
CONFIRMATION OF THE EFFICACY OF HYDROGEN PEROXIDE TO REDUCE *Gyrodactylus* spp.  
INFESTATION DENSITY ON COASTER BROOK TROUT *Salvelinus fontinalis*
- 8:45 **Alan Johnson**  
MANAGING Ich INFECTIONS OF WALLEYE *Sander vitreus* CULTURED IN A SURFACE WATER SUPPLY
- 9:00 **Becky Lasee**, Eric Leis, Corey Puzach  
TAXONOMY, MORPHOLOGY, LIFE HISTORIES AND IDENTIFICATION OF MONOGENEAN PARASITES  
FROM FRESHWATER FISH
- 9:15 **Eric Leis**  
METHODS TO COLLECT, ENUMERATE, AND IDENTIFY GYRODACTYLID (CLASS MONOGENEA)  
PARASITES

Moderator: Andrew Mitchell

- 9:30 **Andrew Mitchell**  
PRELIMINARY IDENTIFICATION SCHEMES FOR SOME UNICELLULAR CILIATED AND FLAGELLATED  
PARASITES OF WARMWATER FISHES
- 10:00 **BREAK**
- 10:30 **Ian Bricknell**, James Bron, Brid O'Shea, Brid O'Shea, Campbell Pert, Jennifer Mordue (Luntz)  
THE OPTIMAL ENVIRONMENTS REQUIRED FOR SUCCESSFUL SETTLEMENT OF *Lepeophtheirus salmonis*  
(COPEPODA; CALIGIDAE) ON ITS HOSTS
- 10:45 **Lester Khoo**, Cynthia Doffitt, Marlena Yost, Linda Pote  
HISTOPATHOLOGICAL COMPARISON OF EXPERIMENTAL INFECTIONS OF TWO DIFFERENT DIGENETIC  
TREMATODES IN CHANNEL CATFISH
- 11:00 **Stephen Bullard**  
RELEVANCE OF THE "HOST-PARASITE RELATIONSHIP" CONCEPT IN FISH DISEASE DIAGNOSTICS,  
MANAGEMENT, AND TREATMENT
- 11:15 **DISCUSSION**
- 12:00 **LUNCH**

Moderator: Andy Goodwin

- 1:30** **Xavier Romero**, Roberto Jimenez  
HISTOPATHOLOGICAL SURVEY OF DISEASES AND POTENTIAL PATHOGENS PRESENT IN CULTURED TILAPIA *Oreochromis* spp. IN ECUADOR
- 1:45** **Dehai Xu**, Phillip Klesius, Craig Shoemaker  
PROTECTIVE IMMUNITY OF NILE TILAPIA AGAINST *Ichthyophthirius*
- 2:00** **Rolando Pakingking Jr.**, Norwell Brian Bautista, Evelyn Grace de Jesus-Ayson, Ofelia Reyes  
PROTECTIVE IMMUNITY AGAINST VIRAL NERVOUS NECROSIS IN BROWN-MARBLED GROUPEP *Epinephelus fuscogutattus* FOLLOWING VACCINATION WITH AN INACTIVATED BETANODAVIRUS
- 2:15** **Javier Santander**, Zhao Yang, Roy Curtiss  
ASPARTATE-SEMIALDEHYDE DEHYDROGENASE (*asdA*) GENE OF *Edwardsiella ictaluri* AND ITS USE TO DEVELOP A BALANCED-LETHAL VECTOR-HOST SYSTEM FOR CONSTRUCTION OF ANTIBIOTIC-SENSITIVE LIVE ATTENUATED RECOMBINANT VACCINES FOR THE AQUACULTURE INDUSTRY
- 2:30** **Phillip Klesius**, Julia Pridgeon, Mediha Aksoy, Craig Shoemaker, Joyce Evans  
THE ROLE OF THE *Flavobacterium columnare* CHEMOTACTIC RESPONSE TO SKIN MUCUS IN VIRULENCE
- 2:45** **Julie Bebak**, Craig Shoemaker, Covadonga Arias, Phillip Klesius  
DETECTION OF *Edwardsiella ictaluri* IN FROZEN CATFISH: EPIDEMIOLOGICAL APPLICATION
- 3:00** **BREAK**
- 3:30** **Andrew Goodwin**, Gwenn Merry  
GREAT LAKES VIRAL HEMORRHAGIC SEPTICEMIA (VHS) VIRUS STRAIN IVB: CAN IT BECOME ESTABLISHED IN WARMER CLIMATES?
- 3:45** **Joyce Evans**, Phillip Klesius, David Pasnik, Julio Garcia, Craig Shoemaker  
NILE TILAPIA INFECTIVITY BY GENOMICALLY DIVERSE *Streptococcus agalactiae* ISOLATES FROM MULTIPLE HOSTS
- 4:00** **Andrew McElwain**, Oscar Olivares-Fuster, Covadonga Arias, Stephen Bullard  
SCANNING ELECTRON MICROSCOPY OF SKIN OF CHANNEL CATFISH *Ictalurus punctatus* EXPOSED TO *Flavobacterium columnare*
- 4:15** **John Bowzer**, Konrad Dabrowski, Kyle Ware, Karolina Kwasek, Teresa Ostaszewska  
EVALUATION OF THE VIABILITY OF WALLEYE *Sander vitreus* EMBRYOS AND LARVAE FOLLOWING IODINE TREATMENT FOR VIRAL HEMORRHAGIC SEPTICEMIA (VHS)
- 4:30** **Kent Bollfrass**, Kevin Stuart, Martha Keller, Mark Drawbridge  
EGG DISINFECTION OF THREE MARINE FINFISH

### **FRESHWATER FINFISH CONTRIBUTED**

Friday, March 5 8:30 - 5:30 Golden West Room  
Chairs: Forest Wynne, Craig Kaspar, Gary Fornshell, Heidi Lewis

Moderator: Forrest Wynne

- 8:30** **Antonio Campos-Mendoza**, Lisbeth Peñaloza-Camargo, Carlos Martínez-Palacios, Cristian Martínez-Chávez  
THE EFFECT OF SALINITY ON SPERM MOTILITY AND FERTILIZATION RATE OF MEXICAN SILVERSIDE *Menidia estor*
- 8:45** **Carlos Cristian Martínez-Chávez**, Juan Antonio Tello-Ballinas, Antonio Campos-Mendoza, Carlos Antonio Martinez-Palacios  
THE EFFECTS OF PHOTOPERIOD ON GROWTH AND MATURATION OF THE MEXICAN SILVERSIDE *Menidia estor*
- 9:00** **James Tidwell**, Shawn D. Coyle, Leigh Anne Bright  
EFFECT OF FEED PELLET CHARACTERISTICS ON GROWTH AND FEED EFFICIENCIES OF THE LARGEMOUTH BASS *Micropterus salmoides*

**9:15 Geoffrey Wallat**, Shawn McWhorter, Laura Tiu, Han Ping Wang  
DUOCULTURE OF YELLOW PERCH *Perca flavescens* AND LARGEMOUTH BASS *Micropterus salmoides* IN RECIRCULATING AQUACULTURE SYSTEMS

**9:30 Jerome Laporte**, Jesse Trushenski  
OPTIMAL INCLUSION RATE OF SOYBEAN MEAL IN SUNSHINE BASS FEEDS WITH RESPECT TO PRODUCTION VALUES AND STRESS RESPONSE

**9:45 Patricia Eklund**, Carole Engle, Gerald Ludwig  
A COMPARATIVE COST ANALYSIS OF PRODUCING HYBRID STRIPED BASS FINGERLINGS IN PONDS AND INDOOR RECIRCULATING SYSTEMS

## 10:00 BREAK

Moderator: Craig Kaspar

**10:30 Thomas Harder**, Gordon Gotsch Jr.  
GROWTH AND SURVIVAL OF YOY WALLEYE FINGERLINGS *Sander vitreus* HELD OVERWINTER IN A RECIRCULATING AQUACULTURE SYSTEM (RAS) AND WALLEYES HELD AT AMBIENT TEMPERATURE IN A FLOW-THROUGH SYSTEM

**10:45 Madison Powell**, Gordon Murdoch, Frederic Barrows, Ronald Hardy  
EFFECTS OF HIGH AND LOW PHOSPHORUS DIETS ON BONE AND HEPATIC GENE EXPRESSION IN RAINBOW TROUT FRY, FINGERLING AND POST JUVENILE STAGES

**11:00 Blake Snyder**, Jacques Rinchar, Sergiusz Czesny  
THE EFFECT OF HIGHLY UNSATURATED FATTY ACIDS ON EARLY LIFE STAGE LAKE TROUT *Salvelinus namaycush* ALEVINS USING *Artemia* NAUPLII ENRICHED WITH COMMERCIAL EMULSIONS

**11:15 Bong Joo Lee**, Halil Ibrahim Haliloglu, Arslan Murat, Konrad Dabrowski  
EFFECTS OF DIETARY TURNIP *Brassica rapa* AND ITS EXTRACTS ON GROWTH AND ANTIOXIDATIVE POTENTIAL IN RAINBOW TROUT *Oncorhynchus mykiss*

**11:30 Maria Célia Portella**, Rodrigo Takata, Bong-Joo Lee, Konrad Dabrowski, Maria Célia Portella  
CAN SOCIAL INTERACTIONS BETWEEN RAINBOW TROUT *Oncorhynchus mykiss*, LAKE TROUT *Salvelinus namaycush* AND ATLANTIC SALMON *Salmo salar* BE LINKED WITH PHYSIOLOGICAL CHARACTERIZATION

**11:45 Bong Joo Lee**, Rodrigo Takata, Konrad Dabrowski, Maria Celia Portella  
DOES AN INCREASED OXYGEN CONSUMPTION BY THE DOMINANT FISH SPECIES INDICATE A SOCIAL HIERARCHY IN SALMONID DUOCULTURES?

## 12:00 LUNCH

Moderator: Gary Fornshell

**1:30 Punhal Khan Lashari**, Naeem Tariq Narejo, Baradi Waryani, Muhammad Younis Laghari  
EFFECT OF DIFFERENT PROTEIN LEVEL ON GROWTH AND SURVIVAL OF THE *Catla catla* (HAMILTON) REARED IN GLASS AQUARIA

**1:45 Hoa Nguyen Phu**, Yang Yi  
PREY FORAGING PATTERNS OF MARBLE GOBY *Oxyeleotris marmorata* FINGERLINGS TO DIFFERENT PREY TYPES

**2:00 Reza Rahli Moghadam**, Abbasali Zamini, Abbas Hamrang Omshi, Mozhan Tolamy Moghadam  
THE EFFECT OF TOTAL HARDNESS (CALCIUM ION) ON FERTILIZATION EFFICACY OF MAHI SEFID *Rutilus frisii kutum* (KAMENSKI, 1901)

**2:15 Roberto Mendoza Alfaro**, Verónica Segovia, Lourdes Gutiérrez, Carlos Ramírez, Carlos Aguilera  
POTENTIAL INVASIVE ORNAMENTAL FRESHWATER FISH SPECIES IMPORTED INTO MEXICO

**2:30 Raquel Castaneda**, Ruby Montoya-Ospina, Michael McGee, Mario Velasco  
CHRONIC SALINITY TOLERANCE OF ASIAN CATFISH *Pangasius hypophthalmus* JUVENILES

**2:45 Hervé Lucien-Brun**, Nguyen Bhin, Cecile Rougier, Le Thanh Hung  
LAST DEVELOPMENT IN THE USE OF ESSENTIAL OILS AS FEED SUPPLEMENT FOR VIETNAMESE  
CATFISH *Pangasius hypophthalmus*: EFFECTS ON PERFORMANCES AND HEALTH

**3:00 BREAK**

Moderator: Heidi Lewis

**3:30 Shahid Mahboob Rana**  
PHYLOGENETIC RELATIONSHIP OF CULTURED AND WILD *Labeo rohita* AND *Cirrhinus mrigala* BASED ON  
MUSCLE PROTEINS PROFILE IN DIFFERENT WEIGHT GROUPS: A NEW TOOL IN PHYLOGENETIC  
ANALYSIS

**3:45 Mini Thottathil Jose**, Alf Haukenes  
ESTRADIOL AND TESTOSTERONE PROFILES OF OVULATING AND NON-OVULATING CHANNEL CATFISH

**4:00 John A. Hargreaves**  
AQUACULTURE IN IRAQ: RE-DEVELOPMENT IN A CONFLICT ZONE

**4:15 Koenraad Vanhoutte**  
REVIVAL OF THE USE OF ALGAE FOR FUNCTIONAL APPLICATIONS: THE CURRENT AND PERVASIVE  
TREND IN THE AQUACULTURE INDUSTRY

## **SHRIMP PRODUCTION SYSTEMS & WATER QUALITY – CONTRIBUTED**

Friday, March 5 8:30 - 5:30 Town & Country Room

Chair: Tzachi Samocha

**8:30 Agnelo Augusto Barros**, Enox Paiva Maia, Luis Otavio Brito, Alfredo Olivera  
PHYTOPLANKTON GROUPS DESCRIPTION FROM THE AFFLUENT AND EFFLUENT IN A *Litopenaeus*  
*vannamei* FARM WITH A PARTIAL WATER RECIRCULATION SYSTEM.

**8:45 Gustavo Arretche Messias**, Enox Paiva Maia, Luis Otavio Brito, Flavia Maria Maciel Carneiro Souza, Alfredo  
Olivera  
PHYTOPLANKTON GROUPS DESCRIPTION FROM IN A SHRIMP FARM *Litopenaeus vannamei*, WITH  
CLOSED SYSTEMS OF RECIRCULATION

**9:00 Susmita Patnaik**, Addison Lawrence  
ESTIMATED PRODUCTION OF GREATER THAN 16-20 KG/M3 OF *Litopenaeus vannamei* IN AN OUTDOOR  
TANK SYSTEM

**9:15 Joshua Wilkenfeld**, Tzachi Samocha, Eudes Correia, Timothy Morris, Kelsey Holmes  
LIVE BAIT SHRIMP PRODUCTION OF THE NORTHERN WHITE SHRIMP *Litopenaeus setiferus* IN INTENSIVE,  
GREENHOUSE-ENCLOSED RACEWAYS UNDER ZERO WATER EXCHANGE CONDITIONS

**9:30 Tzachi Samocha**, Eudes Correia, Joshua Wilkenfeld, Timothy Morris, Liuzhi Wei  
HIGH-DENSITY PRODUCTION OF THE PACIFIC WHITE SHRIMP *Litopenaeus vannamei* IN RECYCLED  
CULTURE WATER UNDER NO EXCHANGE CONDITIONS USING SETTLING TANKS, FOAM  
FRACTIONATORS AND DISSOLVED OXYGEN MONITORING SYSTEMS AS MANAGEMENT TOOLS

**9:45 Eudes Correia**, Tzachi Samocha, Joshua Wilkenfeld, Timothy C. Morris, Liuzhi Wei  
INTENSIVE NURSERY OF THE PACIFIC WHITE SHRIMP *Litopenaeus vannamei* IN GREENHOUSE-  
ENCLOSED RACEWAYS USING LOW AND HIGH PROTEIN DIETS UNDER NO WATER EXCHANGE

**10:00 BREAK**

**10:30 Ling Cao**, James Diana  
LIFE CYCLE ASSESSMENT OF SHRIMP FARMING IN CHINA TO SUPPORT MORE ENVIRONMENTALLY  
SUSTAINABLE AQUACULTURE

- 10:45 Lai Qiuming**, Yang Yi, Li Jinliang  
NITROGEN AND PHOSPHORUS BUDGET IN INTENSIVE POND CULTURE OF *Litopenaeus vannamei* IN HAINAN, CHINA
- 11:00 Agnelo Augusto de Barros Campos**, Enox Paiva Maia, Luis Otavio Brito, Alfredo Olivera  
QUALITY OF THE WATER IN SHRIMP FARM *Litopenaeus vannamei* WITH SYSTEM OF PARTIAL RECIRCULATION SYSTEM
- 11:15 Naparat Prapaiwong**, Claude Boyd  
WATER QUALITY IN PONDS FOR INLAND CULTURE OF MARINE SHRIMP IN ALABAMA
- 11:30 Luke A. Roy**, D. Allen Davis, Gregory N. Whitis  
EFFECTS OF FEEDING RATES ON GROWTH AND SURVIVAL OF TWO SIZE CLASSES OF *Litopenaeus vannamei* IN STATIC AND FLOW-THROUGH SYSTEMS USING LOW SALINITY WATER
- 11:45 Daranee Sookying**, Fabio Soller Dias Da Silva, D. Allen Davis  
EFFECTS OF STOCKING DENSITY ON THE PERFORMANCE OF PACIFIC WHITE SHRIMP *Litopenaeus vannamei* UNDER POND AND OUTDOOR TANK CONDITIONS
- 12:00 LUNCH**
- 1:30 Emilio Peña Messina**, Luis Fernando Bückle Ramírez, Luis Rafael Martínez Córdova, Manuel Alberto Segovia Quintero, José Antonio Zertuche González  
BIOREMEDIATION OF SHRIMP FARMING EFFLUENTS USING NATIVE BIVALVES: AN APPROACH TO WATER RECIRCULATION AND INTEGRATED CULTURES IN NAYARIT, MEXICO
- 1:45 Brandon Klim**, Tzachi Samocha, Josh Wilkenfeld  
USE OF THE HALOPHYTE *Salicornia* sp. AS A TOOL FOR REMOVING NUTRIENTS FROM MARICULTURE EFFLUENT
- 2:00 Dong Zhang**, Junda Lin  
CHEMICAL COMMUNICATION IN LYSMATA SHRIMP
- 2:15 Victoria Alday-Sanz**  
DESIGNING A BIOSECURITY PLAN FOR A SHRIMP FARM: CRITERIA, STEPS AND OBSTACLES
- 2:30 Dhirendra Thakur**, Asbjørn Bergheim  
EXPERIMENTAL TRIAL FOR THE LIQUID OXYGEN INJECTION SYSTEM TO AERATE COMMERCIAL INTENSIVE SHRIMP CULTURE PONDS

## RECENT EXPERIENCES IN MARKET DEVELOPMENT FOR NEW CULTURE CANDIDATE SPECIES

Friday, March 5 1:30 - 5:30 Royal Palm Salon 1

Chair: Chuck Adams

- 1:30 Albert Gaude**, Charles Brown, Christopher Green  
AWAKENING THE SLEEPER: BRINGING *Dormitator maculatus* INTO FULL MARKET POTENTIAL AS A PREMIER MARINE BAIT FOR LOUISIANA
- 1:45 Gulnihal Ozbay**, Callye Masten, Christie Starke  
MARKET DEMANDS FOR BAITFISH SUPPLIES AND FUTURE ASPECTS IN DELAWARE
- 2:00 Gef Flimlin**  
EVALUATING A NEW RETAIL PACKAGING OPTION FOR AQUACULTURED HARD CLAMS *Mercenaria mercenaria* IN NEW JERSEY: AN UPDATE
- 2:15 Shawn McNulty**, Robby Mays, Sawyer Chiles, Robert Nelson  
STRATEGIES FOR ENTERING AND DEVELOPING THE GULF OF MEXICO MARINE LIVE BAIT MARKET

- 2:30 Ronald H. Hoenig**, Aaron W. Welch, John D. Stieglitz, Daniel D. Benetti, Bruno Sardenberg  
IDENTIFICATION AND DEVELOPMENT OF NEW AQUACULTURE PRODUCTS: GOGGLE EYE *Selar crumenophthalmus* A HIGH-VALUE MARINE BAITFISH IN FLORIDA
- 2:45 Michael Oesterling**, Mike Danko, John Ewart, Andy Lazur, Michael Schwarz, Marc Turano, Amber Von Harten, Jack Whetstone  
EVALUATING THE MID-ATLANTIC RECREATIONAL ANGLING MARKET FOR AQUACULTURED MARINE BAITS
- 3:00 BREAK**
- 3:30 Madan Dey**, Ganesh Thapa, Kehar Singh  
LIVE FISH MARKET IN NORTHEASTERN USA: PAST TREND, CURRENT STATUS AND FUTURE OPPORTUNITIES
- 3:45 Chuck Adams**, Leslie Sturmer, John Scarpa  
CONSUMER ACCEPTANCE OF CULTURED SUNRAY VENUS CLAMS *Macrocallista nimbosa* IN FLORIDA
- 4:00 PANEL DISCUSSION**

### WOMEN IN AQUACULTURE

Friday, March 5 3:30 - 5:30 Pacific Salon 2  
Chairs: Karolina Kwasek, Terhea Williams

### IRANIAN AQUACULTURE CONTRIBUTED

Friday, March 5 3:30 - 5:30 Royal Palm Salon 3  
Chair: TBA

**Ammar Salehi Farsani**, Saltanat Najjar Lashgari, Azadeh Mahmoodi, Hossein Negarestan, Mohammad Hossein Emadi

AN INVESTIGATION ON FLUCTUATIONS OF INTERTIDAL POLYCHAETE WORMS IN TWO MUDDY-SANDY SHORES OF PERSIAN GULF RECEIVING DIFFERENT AMOUNTS OF URBAN POLLUTION

**Azadeh Mahmoodi**, Saltanat Najjar Lashgari, Ammar Salehi Farsani

INVESTIGATION OF CHEMICAL PARAMETERS IN WILD AND CULTURED STURGEON FLESH

**Saltanat Najjar Lashgari**, Sohrab Yaghoobi Namin, Ammar Salehi Farsani, Azadeh Mahmoodi  
A SURVEY SOME OF THE SPERM QUANTITATIVE AND QUALITATIVE CHARACTERISTICS OF THE FRIZIAN ROACH *Rutilus frisii kutum* (KAMENSKII) PRODUCERS MIGRATING TO THE SHIROOD AND TONEKABON RIVERS OF THE MAZANDARAN PROVINCE AND THE KHOSHKROOD RIVER OF THE GUILAN PROVINCE

**Moazameh Kordjazi**, Mohammad. Reza Imanpoor, Ahmad. Reza Ahmadi

THE EFFECTS OF CARASS AND PIKEPERCH ON TOTAL LIPID AND UNSATURATED FATTY ACID PROFILES OF COMMON CARP *Cyprinus carpio* (LINNEAUS 1758) IN POLYCULTURE WITH CHINESE CARPS

**Bahram Falahatkar**, Samaneh Poursaeid

EFFECT OF PHOTOPERIOD ON GROWTH, PHYSIOLOGICAL AND HEMATOLOGICAL INDICES IN PERSIAN STURGEON *Acipenser persicus*

**Bahram Falahatkar**, Samaneh Poursaeid

EFFECTS OF PHOTOPERIOD ON GROWTH AND SURVIVAL OF LARVAL PERSIAN STURGEON *Acipenser persicus*

**Maryam Aftabgard**, Abbasali Zamini, Hadi Ershad Langroudi, Nariman Miralami

EFFECT OF PREBIOTIC IMMUNOSTER ON GROWTH, SURVIVAL AND BLOOD FACTORS OF SOUTHERN CASPIAN SEA *Rutilus frisii kutum* FINGERLINGS

**Abdoulkarim Esmaeili**

CLUSTER INDUSTRY, A PROCEDURE FOR FISHERY AND AQUACULTURE MANAGEMENT IN IRAN

**Hassan Salehi**

AN ECONOMICS ANALYSIS FOR FINGERLING ENHANCEMENT PROGRAMS OF KUTUM FISH *Rutilus frisii kutum* IN IRAN

**Hossein Emadi**

RELIGIOUS DIFFERENCES BETWEEN SHIITE AND SUNNITE MOSLEMS IN CONSUMPTION OF NATURAL AND CULTURED AQUATIC ANIMALS

**Mohammad Reza Imanpoor**, Tahere Bagheri

THE EFFICACY, PHYSIOLOGICAL RESPONSES AND HEMATOLOGY OF PERSIAN STURGEON *Acipenser persicus* TO CLOVE ESSENCE AS AN ANESTHETIC AGENT

**Fatemeh Sadat Tahami**

EFFECT OF MNEMIOPSIS ON DISTRIBUTION AND BIOMASS OF PHYTOPLANKTON IN SOUTHERN OF CASPIAN SEA

**Jasem Marammazi**, F. Kahkesh

EFFECTS OF DIETARY PROTEIN AND ENERGY LEVELS ON GROWTH PERFORMANCE, FEED UTILIZATION AND BODY COMPOSITION OF JUVENILE SHIRBOT *Barbus grypus* (HECKLE, 1843)

**Mina Farhadi**, Tymour Aminirad, Akram Tehranifard, Arash Shakorzade

STATUS OF CORAL REEF AT CHABAHAR BAY IN IRAN

**Amir Mohammad-Aliha**, Homayoun Hossein-Zadeh, Abdolrahim Vosoughi

EFFECT OF L-ASCORBYL 2-MONOPHOSPHATE AS SOURCE OF VITAMIN C ON SOME INDICATORS OF GROWTH AND SURVIVAL, AND RESPONSE TO STRESS IN *Cichlasoma nigrofasciatum*

**Amir Mohammad-Aliha**, Homayoun Hossein-Zadeh, Abdolrahim Vosoughi

RECIPROCAL EFFECT OF L-ASCORBYL 2-MONOPHOSPHATE (VITAMIN C) AND DL-ALPHA-TOCOPHEROL ACETATE (VITAMIN E) ON SOME INDICATORS OF GROWTH AND SURVIVAL, AND RESPONSE TO STRESS IN *Cichlasoma nigrofasciatum*