

# Seventh International Conference on Recirculating Aquaculture – July 25 – 27, 2008

June 24, 2008

## Thursday, July 24, 2008

2:00 p.m. - 8:00 p.m. Exhibitor Set-up

## Friday, July 25, 2008

### Time

7:30am – 5:00pm *Registration*

8:00am - 5:00pm *Continuous Refreshment Break*

9:00am - 9:00pm *Trade Show Open*

8:30 – 9:30

*Welcome*

George Flick and ????

*Plenary Session*

**Steven Morrell, Teknoinvest AS**

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**Symposium 1 – Use of RA for Marine Shrimp Culture**  
**Moderator – S. Moss**

**Design Contributed Session**  
**Moderator – D. Taylor**

**AES Session 1 – Water Quality Management in Environmental and Aquaculture Engineering Systems**  
**Moderator – G. Boardman**

**Species Contributed Session**  
**Moderator – L. Granata**

9:30 - 10:00  
**S. Moss**  
Super-Intensive Production of Pacific White Shrimp, *Penaeus (Litopenaeus) vannamei* in Biosecure, Recirculation Aquaculture Systems: Efforts Towards Commercialization

**G. Ozbay**  
Design and Evaluation of a Closed Recirculating Holding System for Freshwater Mussels (*Elliptio complanata*)

**R. Malone**  
Application of PolyGeysers® Floating Bead Filter Bioclarifiers to Recirculating Aquaculture and Domestic Wastewater: A Dramatic Change in Concentration Regime

**V.M. Golod**  
The First Experience of Industrial Recycling Fish Farm in Russia

10:00 - 10:30  
**G. Curtessi**  
Happy Shrimp Farm

**G. Beckman**  
Design Process for Commercial Scale Recirculating

**J.T. Novak**  
The Nature of Biological Sludges and the

**L.R. Pierce**  
DNA Marker-Based Parentage Assignment Supports

		Operations: A Step By Step Approach from a Designers Perspective	Production of Biological Granules	Practical Experiments at Commercial Aquaculture Operations: A Case Study Assessing Family Basis for Growth on Experimental Diets for Rainbow Trout ( <i>Oncorhynchus mykiss</i> )
10:30 - 11:00	Break	Break	Break	Break
11:00 - 11:30	<b>J.W. Leffler</b> Evaluating the Potential of Microbial Biofloc Community Monitoring Techniques as Management Tools in Superintensive Zero-Exchange Shrimp Culture System	<b>F. Wheaton</b> Recirculating System Aquaculture – What You Need to Know	<b>R. Crab</b> Water Quality Control in Wastewater and Aquaculture Systems: Different Disciplines, Yet Common Principles, Problems and Achievement	<b>N.G. Vine</b> Recirculating Aquaculture Systems and Their Role in Research – The Case of the Dusky Kob, <i>Argyrosomus japonicus</i>
11:30 - 12:00	<b>W. Martin, Jr., and T. Blacher</b> Virginia Shrimp Farms: Start Up of a Large-Scale, Commercial Recirculating Shrimp Production System	<b>S.T. Summerfelt</b> Advances in Fish Harvest Technologies for Circular Tanks	<b>D.D. Kuhn</b> Uses of Bioflocs as an Ingredient in Shrimp Feed	<b>T. Tin</b> Study on <i>Vorticella</i> Control in Freshwater Prawn ( <i>Macrobrachium rosenbergii</i> ) Hatchery Systems Using Herbal Leaves
12:00 - 2:00	Lunch	Lunch	Lunch	Lunch
	<b>Water Quality Contributed Session</b> Moderator – D. Taylor	<b>Shrimp Contributed Session</b> Moderator – L. Marsh	<b>AES Session 2 – Recirculating Marine Systems for Mollusc</b> Moderator – G. Merino	<b>Tilapia Contributed Session</b> Moderator – G. Flick
2:00 - 2:30	<b>S.T. Summerefelt</b> Sidewall-Box Airlift Pump Provides Large Flows for Aeration, CO <sub>2</sub> Stripping, and Water Rotation in Large Dual-Drain Circular Tanks	<b>Y-B Wang</b> Characterization and Nitrite Removal of Photosynthetic Bacteria, <i>Rhodobacter sphaeroides</i> , Isolated from Shrimp Sludge	<b>G.E. Merino</b> Recirculating Technology for Red ( <i>Haliotis rufescens</i> ) and Green ( <i>H. discus hannai</i> ) Abalone Broodstock Conditioning	<b>R. Tabor</b> Cross-flowing of Small Clusters of Airlifted/ PolyGeysers® Filtered Tanks as a Means of Improving Tilapia RAS Production Rates
2:30 – 3:00	<b>B.F. Terjesen</b> The Impact of Physical Pellet Characteristics and Environmental Conditions on Stomach Content Separation in Rainbow Trout	<b>M. Brown</b> Integrating Microbial Ecology and Mathematical Modeling to Predict System Performance in Shrimp Recirculating Aquaculture Systems	<b>J. Barraza</b> Comparison on the Energetic Costs of an Open Flow and an Water Recirculating Facility Sized for 100 Metric Tons Commercial Rearing of Red Abalone ( <i>Haliotis rufescens</i> )	<b>I. Lupatsch</b> Predicting Growth, Feed Intake and Waste Production of Intensively Reared Tilapia Based on Nutritional Bioenergetics
3:00 - 3:30	Break	Break	Break	Break
3:30 - 4:00	<b>B.J. Watten</b> Effect of HRT and PCO <sub>2</sub> on the Performance of a Fluidized Bed Limestone Reactor Designed for Alkalinity Enhanced at the Warm Springs Regional Fisheries Center	<b>D.J. Drahos</b> Tracking Inoculated Nitrifying Bacteria Strains in Commercial Shrimp Aquaculture Using Real-Time PCR (qPCR)	<b>Z.O. Gephardt</b> Airlift Technology Models for Aquaculture Applications: Predictive Tools for System Performance and Optimization	<b>H.K. Bakhsh</b> Utilization of Banana Powder as a Feed Additives for Intensive Production of Tilapia ( <i>Oreochromis</i> sp.) and Lettuce ( <i>Lactuca sativa</i> ) in Recirculating Integrated Culture System
4:00 - 4:30	<b>H. Singh</b> Effects of <i>Vallisneria Spirails</i> on Water Quality, Growth and Survival of <i>Carassius auratus</i> during Intensive Rearing System	<b>A.L. Lawrence</b> Stocking Density and Feed Rate Effect on Growth and Survival of <i>Litopenaeus vannamei</i> in a Recirculating Indoor Tank System	<b>P. Heath</b> Abalone Farming Using Recirculation Technologies	<b>I.M.K. Abumourad</b> Identification and Semi-Quantitative Expression Analysis of HSP9 Gene in Tilapia, <i>Oreochromis niloticus</i>
4:30 - 5:00	<b>G-Z Luo</b> An Integrated Water Treatment System for Recirculating Aquaculture	<b>A.L. Lawrence</b> Effects of Stocking Density and Water Exchange on Growth and Survival of <i>Litopenaeus vannamei</i> in a Flow through Outdoor Tank System		<b>I.M.K. Abumourad</b> A Contribution on Myxosoms Infection in Cultured <i>Oreochromis niloticus</i> in Lower Egypt

5:00 - 6:00

**Poster presenters will be available for questions**

**A. Abdel-Megeed**

Bioemediation of Dimethoate by Effective Micro-organisms in Egyptian Contaminated Water

**M.K. Amany**

The Assessment of Mycotic Settlement of Freshwater Fish in Egypt

**M.R. Guedes**

Nitrogen Uptake Kinetics in Aquatic Vascular Plants *in vitro* and in Recirculating Trout Aquaculture Effluent

**L. Marsh**

Collaborative Research Toward Sustainable Shrimp Aquaculture Industry in Virginia

**A.A. Naing**

Morphological Variation Study of Localized Wild Populations of Black Tiger Shrimp (*Penaeus monodon*) and Giant Freshwater Prawn (*Macrobrachium rosenbergii*)

**R.K. Slavik**

Use of Aquaculture Waste in Greenhouse Production

**D.B. Taylor**

Quantitative Risk Analysis of Recirculating Aquaculture Systems: A Monte Carlo Simulation Approach

**G. Rogers**

Application of the Geyser Pump in Aquaculture and Aquaponics

**J. Torres-Zorrilla**

Impact of Free Trade Agreements on Agricultural Chemicals: Case of FTA Peru-USA

**6:00 - 9:00pm Deluxe Reception**

**(Moderator: Greg Boardman)**

**Saturday, July 26, 2008**

**8:00am - 10:00am**     **Registration**

**8:00am - 4:00pm**     **Continuous Refreshment Break**

**9:00am - 3:00pm**     **Trade Show Open**

**Symposium 2 – Fish Health**  
**Moderator – R. Slavik**

**Waste Contributed Session**  
**Moderator – D. Kuhn**

**Symposium 3 – Coldwater Systems**  
**Moderator - S. Summerfelt**

**AES Contributed Session**  
**Moderator – G. Boardman**

9:00 - 9:30     **C. Good**  
Recirculating Aquaculture and the Veterinarian's Role in Fish Health Management

**M.J. Sharrer**  
Membrane Biological Reactor Technology for Reclamation and Reuse of Wastewater when Operated at High and Low Nutrient Loading Conditions

**J.T. Fish**  
Influent Water Treatment for Iron and Manganese Reduction, and Fish Rearing Studies Applied to the Design of the Ruth Burnett Sport Fish Hatchery, Fairbanks, Alaska

**R. Bishop**  
Monitoring, Controlling and Recording through Automation it for Abalone Recirculation System

9:30 - 10:00     **S. Storey**  
What's New in Approved Drugs for Aquatic Species

**J. Conroy**  
Hydrolysis of Fish Waste Solids

**C. Good**  
Performance and Health Assessments of Rainbow Trout *Oncorhynchus mykiss* in Replicated Recirculating Systems Operated at (1) Low vs. High Makeup Rates, (2) Low vs. High CO<sub>2</sub> Concentrations, and (3) With or Without Ozonation at Low Makeup Rates

**W.M. Mwanja**  
Toward Socioeconomically and Technically Suitable Rural Aquaculture Model Production System for Improved *Oreochromis niloticus* and *Clarius gariepinus* Production in the Wetlands of Lake Victoria Basin, East Africa

10:00 - 10:30     **Break**

**Break**

**Break**

**Break**

10:30 – 11:00	<b>M.K. Amany</b> Histopathological and Epizootiological Studies on Mycobacteriosis in Some Ornamental Fishes	<b>J.M. James</b> Characterization of Aquaculture Effluent: Does Protein Source in Diets for Marine Farmed Fish Play a Role in Determining the Physical Qualities of Fish Faecal Waste?	<b>G. Parada</b> Developments for Improving the Transport of Live Fish Covering Long Distances	<b>R.A. Hearn</b> The Evaluation of Oxygen and Carbon Dioxide Transfer Associated with Airlifts in Recirculating Aquaculture Systems
11:00 - 11:30	<b>J.M. Ebeling</b> Engineering Design of a Commercial Spotted Seatrout Recirculating Aquaculture Production System	<b>M.J. Sharrer</b> Evaluation of Solids Thickening Technologies (Gravity Thickening Cone, Geotextile Filter, & Belt Filter) for Treating Backwash from Recirculating Aquaculture Systems	<b>S.T. Summerfelt</b> Process Requirements for Achieving Full-Flow Disinfection Using Ozonation and UV Irradiation	<b>T. Pfeiffer</b> Low-Head Recirculating Aquaculture System for Juvenile Red Drum Production
11:30 - 12:00	<b>R.N. Patterson</b> Study of the Passive Vacuum Degasser: Some Preliminary Observations	<b>J. Conroy</b> Anaerobic Digestion of Aquaculture Waste	<b>H. Liltved</b> UV Exposure of <i>Moritella viscosa</i> in Seawater – Inactivation, Photoreactivation and By-Product Formation	<b>G.J. Fischer</b> Evaluation of Yellow Perch Grow Out in a 19°C Water Recirculating System
<b>12:00 - 2:00</b>	<i>Lunch</i>	<i>Lunch</i>	<i>Lunch</i>	Lunch
	<b>Contributed Session I</b> <b>Moderator</b> – L. Granata	<b>Contributed Session II</b> <b>Moderator</b> - G. Flick	<b>Contributed Session III</b> <b>Moderator</b> – L. Marsh	<b>Contributed Session IV</b> <b>Moderator</b> – D. Kuhn
2:00 - 2:30	<b>D.L. Mast</b> Efficient Oxygenation for Sustainable Aquaculture	<b>F.W. Wheaton</b> Teaching Recirculating Technology: A NRAC Success Story	<b>P. Nickerson</b> Marine Aquaculture and Ozonation: Development of Ozonation for Commercial Scale Production in Land-Based Marine Recirculation Systems at Scotian Halibut Limited	<b>A. Riedel</b> Comparison of Feed Types and Techniques Using a Commercially Available Continuous Rotifer Culture System
2:30 - 3:00	<b>L-F Pedersen</b> Formaldehyde Induced Variation in Biofilter Performance and Microbial Composition	<b>A. Brinker</b> Fishmeal Protein Substitution and Guar Gum Addition in Trout Feed: Effects on Faecal Stability and Solid Waste Characteristics	<b>S. McDaniel</b> The Speece Cone as an Ozone Contact Device	<b>J.M. Ebeling</b> Low Substrate Nitrate Kinetics Utilizing Passive Self-Regulating Denitrification Technology
3:00 - 3:30	<b>H.T. Kyaw</b> Study on the Hormone Encapsulated Feed Fed for Rematuration of Giant Freshwater Prawn ( <i>Macrobrachium Rosenbergii</i> ) Spent Breeders and its Effect on Embryo Development	<b>V. Cristea</b> Influence of Stocking Density and Water Parameters on Growth of Juvenile Beluga Sturgeon ( <i>Huso huso</i> , <u>Linnaeus, 1758</u> )	<b>O.K. Abd El-Hady</b> Association Between <i>Cichlidogyrus tubicerrus</i> and <i>Aeromonas hydrophila</i> in Cultured Tilapia ( <i>oreochromis niloticus</i> )	<b>N.G.E. Mohammady</b> Humic Acid Stimulation of Growth and Optimization of Biochemical Profiles in Two Microalgal Species Proposed as Live Feeds in Aquaculture

## Sunday July 27, 2008

### Field trip (Includes lunch)

6:00 a.m. - 6:00 p.m. Freshwater Institute, Shepherdstown, WV

