

Refereed Journal Publications

Contaminant Washout in a Hydraulically Integrated Serial Turbidostat Algal Reactor (HISTAR), C. S. Theegala, R. F. Malone, and K. A. Rusch. Aquacultural Engineering, Vol. 19, pp. 223 - 241, 1999.

Microalgal Production Using a Hydraulically Integrated Serial Turbidostat Algal Reactor (HISTAR): A Conceptual Model, K. A. Rusch and R. F. Malone. Aquacultural Engineering, Vol. 18(4), pp. 251 - 264, 1998.

Bench Scale Evaluation of a Micro-computer Automated Algal Chemostat, K. A. Rusch and R. F. Malone. Journal of the World Aquaculture Society, Vol. 24(3), pp. 145 - 167, 1993.

Presented Papers

The Use of Automation Software to Operate a Hydraulically Integrated Serial Turbidostat Algal Reactor (HISTAR), J. M. Christensen, R. F. Malone, and K. A. Rusch. Aquaculture '98 Book of Abstracts, February 15 - 19, 1998, Las Vegas, Nevada.

Production of *Isochrysis galbana* (C-ISO and T-ISO) and *Nanocloropsis oculata* Using a Hydraulically Integrated Serial Turbidostat Algal Reactor (HISTAR), K. A. Rusch, J. M. Christensen, C. Chan, and R. F. Malone. Aquaculture '98 Book of Abstracts, February 15 - 19, 1998, Las Vegas, Nevada.

Interim Operational Guidelines for Contaminant Mitigation in a Hydraulically Integrated Serial Turbidostat Algal Reactor (HISTAR). C. S. Theegala, R. F. Malone, and K. A. Rusch. World Aquaculture '97 Book of Abstracts, February 19-23, 1997, Seattle, Washington.

Algal Production and Contamination Mitigation in a Computer Automated Hydraulically Integrated Serial Turbidostat Algal Reactor (HISTAR). C. S. Theegala, R. F. Malone and K. A. Rusch. Aquaculture America '96, February 14 - 17, Arlington, Texas.

Published and Presented Papers

Computer Automation for Microalgae Production, Rusch, K. A., Buckley, J.P. and Malone, R.F., Computer Automation and Control in Aquaculture Workshop, Galveston, Texas, November 12-13, 1993.

A Micro-Computer Control and Monitoring Strategy Applied to Aquaculture, K. A. Rusch, and R. F. Malone, Techniques for Modern Aquaculture, pp. 53-60 In Proceedings of an Aquacultural Engineering Conference, Spokane, Washington, June 21-23, 1993.

Development of a Micro-Computer Automated Algal Chemostat: Overview from Bench to Production Scale, K. A. Rusch and R. F. Malone, pp. 237-245 In Proceedings of an Asian-U.S. Workshop Rotifer and Microalgal Culture Systems, Honolulu, Hawaii, January, 1991.

Conference and Workshop Presentations (not published)

Algal Production and Contamination Mitigation in a Computer Automated Hydraulically Integrated Serial Turbidostat Algal Reactor (HISTAR). C. S. Theegala, R. F. Malone and K. A. Rusch. Aquaculture America, 1996.

Effects of Aging on the Nutritional Quality of *Chaetoceros muelleri* (CHAET 10) Production in a Hydraulically Integrated Serial Turbidostat Algal Reactor (HISTAR), C. M. Chan and K. A. Rusch, Aquaculture America 1996, Arlington, Texas, February 14-17, 1996.

Production Evaluation of HISTAR (Hydraulically Integrated Serial Turbidostat Algal Reactor) For the Commercial Cultivation of Algae. Kelly A Rusch*, Chandra S. Theegala, Ronald F. Malone. Presented at Aquaculture, 95 San Diego, Cal. February 1-4, 1995

Hydraulically Integrated Serial Turbidostat Algal Reactor (HISTAR): A Theoretical Approach to Commercial Microalgae Production, Rusch, K.A. and Malone, R.F., Joint Meeting of World Aquaculture '94 and Expo VII, New Orleans, Louisiana, January 12-18, 1994.

Development of a Computerized Turbidostat for the Continuous Production of Microalgae - Baseline Optimization of *Chaetoceros muelleri* (Chaet 10), K. A. Rusch and R. F. Malone, presented at 1993 Joint South Atlantic Regional Aquaculture/U. S. Chapter of World Aquaculture Society Conference and Trade Show, Hilton Head Island, South Carolina, January 27-30, 1993.

Production Scale Development of a Computer Automated, Continuous Algal Production System, K. A. Rusch and R. F. Malone, presented at the Aquaculture '92 Conference and Exposition, Orlando, Florida, May 21-25, 1992.

Micro-computer Control Strategies for an Automated Continuous Algal Production System, K. A. Rusch and R. F. Malone, World Aquaculture '91, San Juan, Puerto Rico, June 16-20, 1991.

Automated Production of *Chlorella minutissima* by Micro-computer Control, K. A. Rusch and R. F. Malone, 21st Annual World Aquaculture Society Meeting, Halifax, Nova Scotia, Canada, June 10-14, 1990.

Technical Reports

Commercial Scale Algal Production Using an Integrated, Computer-Automated Turbidostat Raceway System, K.A. Rusch, C.S. Theegala, and R.F. Malone. Final Report, submitted to National Sea Grant College Program. April, 1996.

Recent and Ongoing Research

Commercialization of the Hydraulically Integrated Serial Turbidostat Algal Reactor (HISTAR) for Microalgal Production in the Aquaculture Industry; Board of Regents, with Kelly Rusch (1998-

2001,
\$ 293,156).

Impact of Declining Specific Growth Rate on Microalgal Production: Determination of Controlling Factors and the Design Implication for the Hydraulically Integrated Serial Turbidostat Algal Reactor (HISTAR); Louisiana Sea Grant College Program, with Kelly Rusch (1998-2000, \$ 174,560).

Design and Evaluation of a Commercial Scale Hydraulically Integrated Serial Turbidostat Algal Reactor (HISTAR); National Coastal Research Institute, with Kelly Rusch (1997-1999, \$ 248,443).

Development of Production Guidelines for and Evaluation of Microalgal Paste from a Hydraulically Integrated Serial Turbidostat Algal Reactor (HISTAR); Louisiana Sea Grant College Program, with Kelly Rusch (1996-1998, \$195,863).

A Computer Automated, Intensive Larval Feed System for Commercial Marine Fingerling Production; Louisiana Sea Grant College Program, with Kelly Rusch, (1995-1997, \$159,334).

Development and Baseline Optimization Base Food Production System Using an Integrated Algal Turbidostat/Zooplankton Continuous Culture System; Louisiana Sea Grant College Program, (1994-1996, \$ 149,954).

Commercial Scale Algal Production Using an Integrated, Computer-Automated Turbidostat/Raceway Systems; National Sea Grant College Program/National Initiative Program (1993-1995, \$ 215,762).

Implementation of Commercial-Scale Computer Automated Microalgae Turbidostat and Recirculating System Technologies in a Bivalve Mollusk Hatchery; Louisiana Sea Grant College Program - Technology Transfer, with University of Georgia Marine Advisory Service on Skidaway Island (1992-1993, \$ 41,990).

Development of a Full-Scale Computer Automated Microalgae Chemostat and Recirculating System with Implementation in a Greenhouse Bivalve Hatchery System; Louisiana Sea Grant Program, (1990--1992, \$ 110,882).

Automated Production of Planktonic Algae with Application to the Rangia Clam; Louisiana Sea Grant College Program, (1988-1990, \$ 249,000).