Contact

www.linkedin.com/in/dougernstphd (LinkedIn)
aquafarm.com/ (Company)
www.transparentseafarm.com/ (Company)

Top Skills

Aquaculture science, engineering, software, and commercial development
Ecology
Science

Certifications

SCUBA

Doug Ernst

Founder AquaFarm.com
Carlsbad, California, United States

Summary

Aquaculture systems engineering, research, and development:
~ Commercial aquaculture research and development
~ Aquaculture simulation software
~ Recirculating aquaculture systems (RAS)
~ Integrated multitrophic aquaculture (IMTA)
~ Intensive, controlled environment, marine shrimp production
~ Marine macroalgae tumble culture
~ Aquaculture bacteriology and bacterial processes

Experience

AquaFarm.com

Founder and Consultant
2000 - Present (26 years)
California, United States

Consulting for research and commercial aquaculture operations:
~ Aquatic chemistry and water quality, aquatic biology, aquatic animal biology, and aquaculture systems engineering and operations.
~ Recirculating aquaculture systems (RAS) with minimized system water exchange, utilization of produced solids, intensive marine shrimp and finfish production, marine macroalgae production, integrated multitrophic aquaculture (IMTA), and aquaculture bacteriology and bacterial processes.
~ Development and programming of aquaculture simulation software for facility design, production planning, enterprise development, and education.

TransparentSea Farm

Chief Technology Officer
January 2020 - Present (6 years 10 months)
California, United States

Production of marine shrimp in closed, intensive aquaculture facilities, using recirculating aquaculture system (RAS) technology with advanced water treatment, including hatchery, nursery, and growout shrimp culture stages. Advancements include (1) long-term system water reuse with controlled metabolite and ionic composition, (2) integrated multitrophic RAS, (3) by-

product utilization for produced solids, and (4) automated monitoring and control. Directed development and implementation of systems engineering, operating procedures, and process automation.

Planet Shrimp, Inc.
Chief Technology Officer
October 2014 - December 2019 (5 years 3 months)
Aylmer, Ontario, Canada

Production of marine shrimp in closed, inland, facilities, using stacked raceway and recirculating aquaculture system (RAS) technology. Directed development and implementation of systems engineering, operating procedures, process automation, and management software, including hatchery, nursery, and growout shrimp culture stages. Responsible for training, presentations to company shareholders, and technology transfer to commercial partners.

NaturalShrimp Corp
VP Science & Technology
2005 - 2014 (9 years)
La Coste, Texas

Production of marine shrimp (Litopenaeus vannamei) in closed, inland, intensive facilities, using biofloc technology systems and experimental clear-water recirculating systems. Directed R&D for shrimp production system engineering, operation, and management, alternative water treatment and reuse strategies, and control methods for beneficial and harmful bacteria. Responsible for production supervision, shareholder presentations, and technology transfer to commercial partners.

Söliv International
Director Research and Development
2002 - 2004 (2 years)
Manchester and Seattle, Washington

Production of marine macroalgae in a land-based production system using intensive tumble-culture and effluent from marine finfish aquaculture. Responsible for project management, technical experimentation and development, cooperative research with NOAA, funding proposals, scientific presentations and papers, and worker training and management.

Oregon State University, Dept. Biological & Ecological Engr.
Assistant Professor
1990 - 2002 (12 years)
Corvallis, Oregon

Developed aquaculture simulation software for static, flow through, and recirculating systems, based on integrated physical, chemical, and biological unit-process modeling, including biological processes of bacteria, microalgae, macroalgae, and aquaculture organisms. Performed applied research at salmon hatcheries using whole-raceway fish metabolic respirometry to develop and calibrate fish metabolic models. ~ Managed and published the research database of the Pond Dynamics/Aquaculture CRSP, including web-based user data queries and compilation of experiment datasets from globally distributed research groups. Responsible for competitive funding under PD/A CRSP (US AID) and BPA (US DOE), R&D proposals for integrated multitrophic aquaculture, and scientific presentations and publications. ~ Provided consulting and workshops for high-school agricultural teachers for use of aquaculture and aquaponic systems in high-school education programs.

Caribbean Marine Research Center

Associate Scientist

1985 - 1990 (5 years)

Exuma Cays, Bahamas and Florida State University Marine Lab

Responsible for design and development of commercial-scale, brackish water, tilapia hatchery and tilapia seawater growout facilities, including net-pen, fed tank, and fertilized pond culture systems. Responsible for design, implementation, and publication of experiments and extension work in the Bahamas and Haiti. ~ Designed and supervised construction of an aquaculture research laboratory, including replicated water recirculation and tank systems with controllable water temperature, salinity, and photoperiod.

Oregon State University, Hatfield Marine Science Center

Instructor, Dept. Biological & Ecological Engr.

1982 - 1984 (2 years)

Newport, Oregon

Prepared and presented lectures and coursework for upper-level course in aquacultural engineering.

Oregon Aqua Foods

Technician

1978 - 1980 (2 years)

Springfield and Newport, Oregon

Performed technical work in commercial salmon ranching, including smolt production, smolt ocean release, and adult recapture, harvest, sorting, and spawning.

Education

Oregon State University

PhD, Major: Aquacultural Engineering. Minor: Aquaculture Extension. · (1995 - 2000)

Oregon State University

MAg, Major: Aquacultural Engineering. Minor: Water Resources. · (1981 - 1983)

University of Oregon

BS, Major: Molecular Biology. Minor: Aquatic Biology · (1973 - 1978)