

THE INSTITUTE OF MARINE AND ENVIRONMENTAL TECHNOLOGY (IMET) – UNIQUE MARINE AQUACULTURE PROGRAMS AND OPPORTUNITIES FOR COLLABORATIONS.

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One of the major research areas at the University of Maryland Institute of Marine and Environmental Technology (IMET) is sustainable marine aquaculture. Specifically, the use of modern platforms of biology and biotechnology for the development of environmentally responsible and economically feasible recirculating marine aquaculture systems. The mission and formal charge of IMET emphasizes research, education and economic development, thus we work closely with the aquaculture industry in the US and globally. IMET's Aquaculture Research Center (ARC) is a unique 2,000 m² state-of-the-art, fully contained, recirculating research and development facility that focuses on aquaculture-related studies including reproduction, spawning and hatchery technologies, fish health, nutrition and alternative feeds, and the development and optimization of recirculating marine aquaculture systems. ARC contains multiple tanks of 2-20 m³ as well as many replicated systems of smaller tanks. A computerized system maintains full control over the photoperiod, water temperature (10-30°C) and salinity (0-36 PPT) in each of the tanks. ARC also includes a hatchery wing with dedicated algae culture, live feeds and larval rearing systems (ranging from 0.5-6 m³). The broad range of environmental conditions available at ARC, and its total biosecurity, have enabled us to conduct research and development programs with multiple fish species, including striped bass, European seabass, Mediterranean seabream, cobia, amberjack, sablefish, bluefin tuna, Atlantic salmon, coho salmon, and rainbow trout, among others. For many years, we have engaged in public-private partnerships with multiple commercial and non-academic partners in the US and beyond. Notably, IMET recently received a NOAA/Sea Grant award to lead a national public-private-government consortium titled: "Building capacity of land-based Atlantic salmon aquaculture in the US". This consortium, referred to as the Recirculating Aquaculture Salmon Network (RAS-N), integrates several academic and research institutions and major industrial partners to advance research, education, training, outreach, workforce development and the economic feasibility of this emerging industry in the US. IMET and ARC are cutting-edge operations within the University System of Maryland that are available for collaborations aimed at empowering the marine aquaculture industry in the United States.