



KITAZAWA LAB.

[Marine Ecosystem Preservation and Fishery]

Underwater Technology Research Center

http://mefe.iis.u-tokyo.ac.jp/index_e.html

Marine Ecosystem Engineering

Dept. of Systems Innovation, Graduate School of Engineering

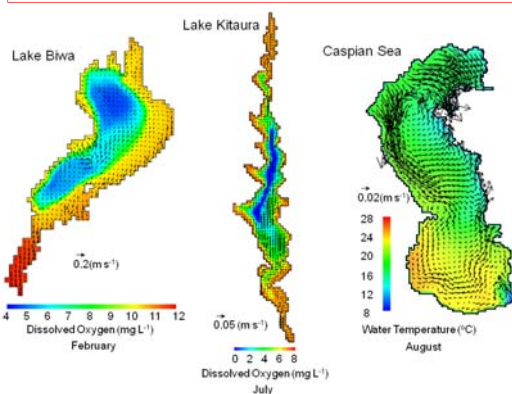
Aquatic Environment and Food Production

Based on **hydrodynamics**, we study the following subjects by means of numerical simulation, water tank model testing, and field investigation in collaboration with many research organizations and private companies.

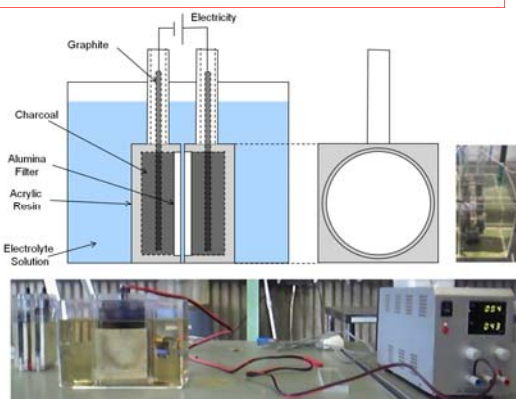
1. Future prediction of the ecosystem of lakes and coastal seas by hydrodynamic and ecosystem coupled model
2. Sustainable and effective marine food production system
3. Treatment of wastewater by electrolysis

Key words

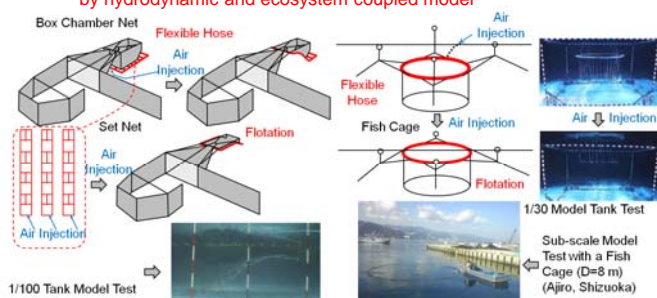
- **Future prediction of the ecosystem of lakes and coastal seas:** eutrophication; climate change; harmful algae; toxin production, hydrodynamic and ecosystem coupled model; Tokyo Bay; Lake Biwa; Lake Kasumigaura; Lake Ikeda; Caspian Sea
- **Sustainable and effective marine food production system:** automation of fishery; high productivity; automated net-hauling system in set net fishery; fisheries resource conservation; automated feeding system in aquaculture; automated flotation/submersion system of fish cage; seafood self-sufficiency; employment of new workers
- **Treatment of wastewater by electrolysis:** oxygen supply; hydrogen supply; decomposition of nitrogen; bio-fouling prevention; charcoal electrode; dielectric electrode; titanium net



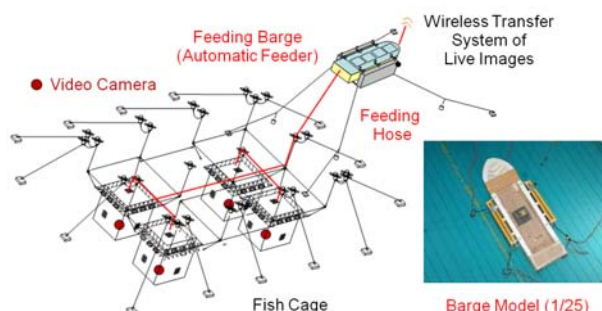
Future prediction of the ecosystem of lakes and coastal seas by hydrodynamic and ecosystem coupled model



Treatment of wastewater by electrolysis



Flotation/submersion system of fishing gears



Offshore underwater aquaculture system