



Rethinking the sustainable life support: 'Membranes'

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Life support systems (LSS) are the largest consumers of electricity and water in aquariums, so ensuring sustainability requires innovative LSS design. Attempts to control turbidity, suspended solids, bacteria, algae and nutrients can run counter to the goal of sustainability when traditional designs are employed. New approaches must inform the design of LSS if aquariums are to be models of sustainability and innovation. This presentation will discuss advances in LSS design and show how these can contribute to a more sustainable facility.

Membrane technologies greatly enhance resource efficiency and reduce power consumption. This presentation will explain issues encountered and anticipated when employing this technology, as well as how to improve treatment efficiency and reduce turnover rate and energy consumption using ultra-filtration membranes. It will report on results from pilot testing different types of membrane, and recommend requirements when moving into full-scale system implementation. This presentation will challenge participants to re-think how public demands for sustainable facilities can be met through design innovation, and identify areas of focus to move the aquarium industry to the next level in life support design.