

Presentation title: Overview of research in the Water Treatment Laboratory

The Water Treatment Laboratory, led by Prof. Fujioka, focuses on developing membrane-based water treatment technologies and analytical techniques to produce high-quality recycled water for drinking water and water recycling applications. The group also develops low-capital/operating-cost water and wastewater treatment technologies for developing countries. The presentation introduces unique technologies that the laboratory is currently developing. They include membrane fabrication (leak-free RO and the world's thinnest FO), direct nanofiltration, net-zero-energy water recycling using NF and anaerobic digester, and online water quality analysis (bacteria, *Cryptosporidium* surrogate indicator, bromate, NDMA, and odor-producing algae).

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Takahiro received his B.Eng. in 2000 and M.Eng. in 2002 in Chemical Engineering from Hiroshima University, Japan. He worked as a project manager at Fuji Electric Systems Co. Ltd. from 2002 to 2005. He undertook postgraduate training in Water Supply Engineering at UNESCO-IHE, the Netherlands, and graduated in April 2009. He worked as a project engineer at Mitsubishi Electric Co. until 2010. From 2011 to 2013, Takahiro undertook a Ph.D. training project at the University of Wollongong, Australia. From December 2013 to April 2015, Takahiro worked as a research fellow at the University of Wollongong. In addition, he served as the secretary and a board member of the Membrane Society of Australasia from May 2013 to May 2015. Takahiro is currently a Professor at Nagasaki University. His research interests center on water treatment using membrane technologies. He has published 102 international journal papers, of which 52 articles have been published as the first author. He is an Associate Editor of the Environmental Technology & Innovation journal (Elsevier, IF = 6.7) and the American Water Works Association Water Science journal. He is also an Editorial Board Member of Environmental Science: Water Research & Technology journal (Royal Society of Chemistry, IF = 3.5) and Environmental Science and Technology Water journal (American Chemical Society, IF = 5.4).

