BW4A & EBIC & EBNet
Joint Webinar

Tuesday 24 November 2026 at 10:00 GMT
Online via Teams
In person at Cranfield University B52A LR7



Nanobubble (Ultrafine Bubble) Research & Standardisation

Dr Yoshikatsu Ueda, Kyoto University
Host: Dr Tao Lyu, Cranfield University

Abstract: Fine bubbles, including microbubbles and ultrafine bubbles (UFBs, often called nanobubbles), have attracted growing interest in environmental and engineering applications. Their reported stability raises important questions for classical dissolution models based on Laplace pressure. Early observations of surface nanobubbles around 2000 stimulated research into bubble stability and characterisation; the reliable measurement and identification of dispersed ultrafine bubbles remain active research topics. This seminar will introduce developments in fine bubble research in Japan, focusing on electrical and electrochemical properties, characterisation methods, and environmental applications. It will also discuss international standardisation, including ISO/TC 281, established in 2013, and the importance of reproducible, comparable measurements. Cranfield University is conducting related nanobubble research in water and wastewater treatment, environmental biotechnology and agriculture. Following the seminar, in-person participants will be welcome to visit Cranfield's UKCRIC National Research Facilities in Water and Wastewater Treatment and hear about related projects.

Biography: Dr Yoshikatsu Ueda is an Assistant Professor at the Research Institute for Sustainable Humanosphere, Kyoto University, Japan. His research covers the electrical and electrochemical properties, characterisation, and environmental applications of fine bubbles. He is a member of Japan's ISO/TC 281 National Committee and has served as Convenor of ISO/TC 47/WG 9 since 1 Sept 2026. He is also Vice President of the Fine Bubble Academy of the Fine Bubble Industries Association. He chaired the Nanobubble 2024 conference in Japan and served as a Scientific Committee member for the Nanobubble 2026 conference in the USA.

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