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ランチョンセミナーの概要

タイトル(仮題)	A Rapid Microbial Detection Technology to Identify Water Purification Failures in Real Time
セミナ 要	Today, it is common to release water (Purified Water and Water for Injection) continuously for its chemical attributes (TOC and conductivity). However, this same water would be released at risk for its microbial attributes due to the time required to grow and enumerate microbial colonies. As an example, during the monitoring of the microbial attributes of a water system by traditional growth-based methods, we observed inconsistent results from week-to-week. <i>Instead of increasing the frequency of the traditional sampling to more samples per week, we employed an at-line, real-time, fluorescence-based microbial detection technology.</i> These periodic test failures, which later turned out to be purification process failures, were occurring every 24-30 hours and traditional growth-based microbial detection methods could not detect these process failures. By examining continuous data, we correlated the auto-fluorescent count to a tank-filling process, then correlated the tank-filling process to an exhaustion of mixed-bed ion-exchange resin. By measuring continuously (every second), we observed periodic and serious purification failures, we corrected those failures, we generated consistent and compliant water quality, and we have a predictive tool to identify maintenance needs of limiting processes, i.e., processes that get consumed over time such as carbon bed and ion-exchange resin.