

## **Kurita-AIT Research Grant 2018**

### **Consequences of Climate Change on Characteristics of Dissolved Organic Matter(DOM) and Formation Potential of Disinfection by-Products (DBPs) in the Chao Phraya River Basin, Thailand**

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#### **Abstract**

Globally, climate variability and change are expected to alter hydrological processes, aquatic functions and water cycles in multiple ways over different time scales and geographical areas. In Southeast Asia, the number of extreme weather events, such as tropical cyclones, floods, and droughts, has significantly increased since 1950. Given these concerns, it seems obvious that all hydro-meteorological and climatological disasters will continue to have far-reaching impacts on water quantity and water quality in all aspects of security, treatability, resilience of water resources, and also public concerns. Obviously, there is a growing body of literature on potential impacts of climate change on water availability. So far however, the linkage between global climate change and water quality has been addressed by only few studies. The aim of this research is therefore to critically investigate the possible impacts of climate change on water quality in Thailand. As the largest basin and principal source of water supply for the national domestic, the Chao Phaya River will be selected as a case. All distribution and characteristics of dissolved organic matter (DOM), the relationship among hydro-climatological factors, DOM characteristics and disinfection by-products (DBPs) (i.e. THMs) formation potential will be systematically analyzed in a controlled laboratory experiment.