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30th Anniversary of the key laboratory of drinking water science and technology: Preface

The Key Laboratory of Drinking Water Science and Technology (DWST), a key branch of the Laboratory of Environmental Aquatic Chemistry, has been staying on the cutting edge in the field of drinking water since its establishment in 2014. The main goal of this laboratory is to ensure drinking water safety, particularly with regard to public health. To achieve this goal, the research teams have been making great efforts to develop water quality criteria and standards for health risk control; establish state-of-the-art theoretical and technological systems for pollution control and water purification; form an innovation layout from foundation to application, from engineering to management, and from water source to tap; and provide systematic solutions to forward-looking and universal scientific problems in drinking water safety. The laboratory mainly focuses on four research fields: (1) methodology for water quality risk assessment; (2) combined pollution of water source and ecological restoration; (3) new theories and technologies for water purification; and (4) chemical/biological processes and regulations of water distribution systems.

Through massive efforts devoted by the team members, the DWST has been recognized as a top laboratory for drinking water in the world. First, it plays a core role in technical support of the formulation and revision of national drinking water management policies and quality standards. Prof. Jiuhui Qu, as the leader of the revision panel of "Standards for Drinking Water Quality (GB 5749)", and Prof. Min Yang, as a core panel member, have promoted the change of water quality standards from toxicity control to risk management. Second, it actively promotes water industry services. For the first time in China, the laboratory put forward and successfully built a source-to-tap technological system to ensure drinking water safety, which provides key support for the technological innovation of water industry in China. A number of technologies developed in the laboratory have been applied in large-scale projects, and many projects have won national and international awards and achieved significant social and economic benefits. Third, it has actively responded to and served the "One Belt and One Road" national initiative, and exerted an important international influence in the field of drinking water. The Center of Excellence for Water and Environment (CEWE), co-established by the Chinese Academy of Sciences (CAS) and the Third World Academy of Sciences (TWAS) and based on the DWST, has taken the lead in exploring the drinking water poverty alleviation and aid model for countries along the "Belt and Road" route, provided important scientific and technological support for Sri Lanka, Cambodia, Bangladesh, Nepal, Myanmar, Kenya and other countries to solve drinking water problems, and trained more than 300 technicians from about 40 developing countries.

To celebrate the 30th anniversary of the Laboratory of Environmental Aquatic Chemistry at the Research Center for Eco-Environmental Sciences, the journal launches a special issue on "Drinking Water Science and Technology" as a platform presenting the latest results of the DWST. This special issue contains 19 papers including review and research articles contributed by the team members.

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