Special Issue

Photo(electro)catalytic Reactions Combined with Ozone Oxidation Technique

Message from the Guest Editors

Photo(electro)catalytic oxidation techniques, including photocatalytic oxidation (PCO) and photoelectrocatalytic oxidation (PECO), have been widely applied for the treatment of dye, medicine, and organic compounds (OCs) in wastewater and waste gases. Photo(electro)catalytic oxidation is a promising technique that uses semi-conductors as catalysts to convert light/electrical energy into chemical energy. Another potential technique is ozone oxidation, which can be used for decomposing OCs due to its strong oxidation capability using ozone and other oxidants as reactants. However, the removal efficiency of OCs solely exerted by ozone is low. Thus, combining ozone oxidation with other advanced oxidation techniques (AOTs), such as photo(electro)catalysis, is an option to effectively enhance the decomposition of various pollutants. Although both ozone and photo(electro)catalytic oxidation have been used to decompose pollutants separately, developing an efficient AOT by combining photo(electro)catalytic and ozonolytic oxidation with potential applications is urgently demanded.

Guest Editors

Prof. Dr. Chung-Shin Yuan

Institute of Environmental Engineering, National Sun Yat-sen University, Kaohsiung 80424, Taiwan

Prof. Dr. Chung-Hsuang Hung

Department of Safety, Health and Environmental Engineering, National Kaohsiung University of Science and Technology, Kaohsiung 82445, Taiwan

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Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
catalysts@mdpi.com

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Prof. Dr. Keith Hohn
Carl R. Ice College of Engineering, Kansas State University, Manhattan, KS, USA

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