Photothermal catalysis for solar energy and chemical conversion

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Abstract

Sunlight is a sustainable energy supply to the earth. Photocatalysis can be used for transformation of solar energy for chemical reaction but suffers from low efficiency. Thermal catalysis is generally effective but usually occurs at high temperature. Recently, photothermal catalysis was proposed as a new strategy for coupling photocatalytic and thermocatalytic processes. In this seminar, I will present my recent work on synthesis of different carbon nitride-based materials for solar energy conversion and photothermal catalysis in water splitting to hydrogen and CO_2 conversion.

Biography: Prof. Shaobin Wang obtained the degrees of BSc and MSc in Chemistry from Peking University and PhD in Chemical Engineering from the University of Queensland (Australia). He has been a John Curtin Distinguished Professor at Curtin University (Australia) and is now a Laureate Professor at the School of Chemical Engineering, Adelaide University (Australia). His research interests focus on nanomaterial synthesis and application for adsorption and catalysis, fuel and energy conversion and environmental remediation. He was awarded 2012 Thomson Reuters Citation & Innovation Awards in Australia and is listed as a highly cited researcher in Engineering, Chemistry and Environment & Ecology in 2016-2022. He is a co-editor of Journal of Colloid and Interface Science and an editor of Applied Catalysis B: Environmental as well as an editorial board member of several international journals.