Shuguang Lyu

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Profile

Shuguang Lyu, born in 1965, is a professor/Ph.D. supervisor of the National Key Laboratory of Environmental Risk Assessment and Control for Chemical Processes of East China University of Science and Technology. He graduated from Yamaguchi University in 2000 with a major in Environmental and Ecological Engineering, and obtained a doctorate in engineering. The research interests include the remediation of contaminated sites and groundwater. He is now a member of the editorial board of Environmental Pollution and Prevention and Frontiers of Environmental Science & Engineering. In the past five years, he has presided over and completed two projects of the National Natural Science Foundation of China and the Ministry of Environmental Protection's non-profit industry scientific research projects. One of his research project, which called “New Technologies for Environmental Remediation and Risk Control of Organic Matter Contaminated Groundwater in Industrial Sites”, won the 2014 Shanghai Science and Technology Second Prize. He has published more than 150 papers (including 120 as the first/corresponding authors and 48 in the past five years). He has also applied 6 national invention patents as the first inventor, and now two patents have been authorized.

Research Field

Contaminated sites and groundwater remediation

Research results and selected published papers

1. Wenchao Jiang, Dionysios D. Dionysioub*, Minghao Kong, Zhen Liu, Qian Sui, Shuguang Lyu*. Utilization of formic acid in nanoscale zero valent iron-catalyzed Fenton system for carbon tetrachloride degradation. Chemical Engineering Journal, 2020, 380: 122537.
2. Wenchao Jiang, Ping Tang, Shuguang Lyu*, Mark L. Brusseau, Yunfei Xue, Xiang Zhang, Zhaofu Qiu, Qian Sui*. Enhanced redox degradation of chlorinated hydrocarbons by the Fe(II)-catalyzed calcium peroxide system in the presence of formic acid and citric acid. Journal of Hazardous Materials, 2019, 368: 506-513.
3. Ping Tang, Wenchao Jiang, Shuguang Lyu*, Mark L. Brusseau, Yunfei Xue, Zhaofu Qiu, Qian Sui*. Mechanism of carbon tetrachloride reduction in ferrous ion activated calcium peroxide system in the presence of methanol. Chemical Engineering Journal, 2019, 362: 243-250.
4. Yunfei Xue, Qian Sui*, Mark L. Brusseau, Wei Zhou, Zhaofu Qiu, Shuguang Lyu*. Insight into CaO2-based Fenton and Fenton-like systems: strategy for CaO2-based oxidation of organic contaminants. Chemical Engineering Journal, 2019, 361: 919-928.
5. Yong Sun, Shuguang Lyu*, Mark L. Brusseau, Ping Tang, Wenchao Jiang, Mengbin Gu, Ming Li, Yanchen Lyu, Zhaofu Qiu, Qian Sui*. Degradation of trichloroethylene in aqueous solution by nanoscale calcium peroxide in the Fe(II)-based catalytic environments, Separation and Purification Technology. 2019, 226: 13-21.
6. Usman Farooq, Muhammad Danish, Shuguang Lyu*, Mark L. Brusseau, Mengbin Gu, Waqas Qamar Zaman, Zhaofu Qiu, Qian Sui. The impact of surface properties and dominant ions on the effectiveness of G-nZVI heterogeneous catalyst for environmental remediation. Science of the Total Environment, 2019, 651: 1182-1188.
7. Mengbin Gu, Qian Sui, Usman Farooq, Xiang Zhang, Zhaofu Qiu, Shuguang Lyu*. Degradation of phenanthrene in sulfate radical based oxidative environment by nZVI-PDA functionalized rGO catalyst. Chemical Engineering Journal, 2018, 354: 541-552.
8. Yunfei Xue, Qian Sui, Mark L. Brusseau, Xiang Zhang, Zhaofu Qiu, Shuguang Lyu*. Insight on the generation of reactive oxygen species in the CaO2/Fe(II) Fenton system and the hydroxyl radical advancing strategy. Chemical Engineering Journal, 2018, 353: 657-655.
9. Mengbin Gu, Qian Sui, Usman Farooq, Xiang Zhang, Zhaofu Qiu, Shuguang Lyu*. Enhanced degradation of trichloroethylene in oxidative environment by nZVI/PDA functionalized rGO catalyst. Journal of Hazardous Materials, 2018, 359: 157-165.
10. Yunfei Xue, Ljiljana Rajic, Long Chen, Shuguang Lyu*, Akram N. Alshawabkeh. Electrolytic control of hydrogen peroxide release from calcium peroxide in aqueous solution. Electrochemistry Communications, 2018, 93: 81-85.
11. Ping Tang, Wenchao Jiang, Shuguang Lyu*, Zhaofu Qiu, Qian Sui. Ethanol enhanced carbon tetrachloride degradation in Fe(II) activated calcium peroxide system. Separation and Purification Technology, 2018, 205: 105-112.
12. Usman Farooq, Muhammad Danish, Shuguang Lu*, Muhammmad Naqvi, Zhaofu Qiu, Qian Sui. A step forward towards synthesizing a stable and regeneratable nanocomposite for remediation of trichloroethene. Chemical Engineering Journal, 2018, 347: 660-668.
13. Wenchao Jiang, Ping Tang, Shuguang Lu*, Yunfei Xue, Xiang Zhang, Zhaofu Qiu, Qian Sui. Comparative studies of H2O2/Fe(II)/formic acid, sodium percarbonate/Fe(II)/formic acid and calcium peroxide/Fe(II)/formic acid processes for degradation performance of carbon tetrachloride. Chemical Engineering Journal, 2018, 344: 453-461.
14. Mengbin Gu, Usman Farooq, Shuguang Lu*, Xiang Zhang, Zhaofu Qiu, Qian Sui. Degradation of trichloroethylene in aqueous solution by rGO supported nZVI catalyst under several oxic environments. Journal of Hazardous Materials, 2018, 349: 35-44.
15. Sixia Yu, Xiaogang Gu, Shuguang Lu*, Yunfei Xue, Xiang Zhang, Minhui Xu, Zhaofu Qiu, Qian Sui. Degradation of phenanthrene in aqueous solution by a persulfate/percarbonate system activated with CA chelated-Fe(II). Chemical Engineering Journal, 2018, 333: 122-131.
16. Yunfei Xue, Shuguang Lu*, Xiaori Fu, Virender K.Sharma, Itza Mendoza-Sanchez, Zhaofu Qiu, Qian Sui. Simultaneous removal of benzene, toluene, ethylbenzene and xylene (BTEX) by CaO2 based Fenton system: Enhanced degradation by chelating agents. Chemical Engineering Journal, 2018, 331: 255-264.
17. Shuguang Lu*, Xiang Zhang, Yunfei Xue. Application of calcium peroxide in water and soil treatment: A review. Journal of Hazardous Materials, 2017, 337: 163-177.