



Department: School of Resources and Environmental Engineering
Professional field: Environmental Engineering,
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Profile

Xiuchen Qiao is a professor of Environmental Engineering and Chemical Engineering in ECUST. He received Ph.D degree in 2004 from Wuhan University of Technology. After finishing his work as a research assistant in The HongKong Polytechnic University from 2001 to 2004, he went to Imperial College for his postdoctoral research from 2005 to 2006. He joined the School of Resource and Environmental Engineering at East China University of Science and Technology in 2007. He is a member of the Chinese ceramic society (solid waste), China association of circular economy and Shanghai society of chemistry & chemical industry.

Until now, he published more than 70 journal papers and is an owner of more than 20 Chinese patents. He received a top grade of achievement for scientific research certified by the Hubei Province in 2000(No. EK010199). A 20,000 tons/y demonstration process for utilization of coal chemical engineering ash was set up under the support of his patented technologies. His research has been supported by Shanghai Pujiang Program, Science and Technology Commission of Shanghai Municipality, Innovation Program of Shanghai Municipal Education Commission, Jiangsu Science and Technology Department, National Natural Science Foundation of China, Specialized Research Fund for the Doctoral Program of Higher Education and National High-tech R&D Program (863 Program) and the Funds from many companies.

Research Field

The focus of professor Qiao's research is on sustainable utilization of solid wastes and preparation of green building materials. Now he is doing research on extraction of valuable elements from coal wastes, preparation of 5N alumina from aluminum contained wastes, preparation of green building materials, application of microwave energy and non-thermal plasma (NTP) technology.

Research results and selected published papers

Some Journal Papers in English

1. C.C. Li, X. C. Qiao. A new approach to prepare mesoporous silica using coal fly ash. Chemical Engineering Journal, 2016, 302:388-394.
2. C.C. Li, X. C. Qiao, J. G. Yu. Large surface area MCM-41 prepared from acid leaching residue of coal gasification slag. Materials Letters, 2016, 167:246-249.
3. M. X. Yuan, X. C. Qiao, J. G. Yu. Phase equilibria of $\text{AlCl}_3 + \text{FeCl}_3 + \text{H}_2\text{O}$, $\text{AlCl}_3 + \text{CaCl}_2 + \text{H}_2\text{O}$, and $\text{FeCl}_3 + \text{CaCl}_2 + \text{H}_2\text{O}$ at 298.15 K. Journal of Chemical & Engineering Data, 2016, 61 (5):1749-1755.
4. X. C. Qiao, X. Y. Xie. The effect of electric field intensification at interparticle contacts in microwave sintering. Scientific Reports, 2016, 6:32163.
5. Z. Y. Zhang, X. C. Qiao. Aluminum release from microwave-assisted reaction of coal fly ash with calcium carbonate, Fuel Processing Technology, 2015, 134: 303-309.
6. Z. Y. Zhang, X. C. Qiao, J. G. Yu. Microwave selective heating-enhanced reaction rates for mullite preparation from kaolinite. Rsc Advances, 2014, 4(6):2640-2647.
7. H. M. Zhou, X. C. Qiao, J. G. Yu. Influences of quartz and muscovite on the formation of mullite from kaolinite. Applied Clay Science, 2013, 80–81(8):176-181.
8. P. Si, QIAO, X. C. Qiao, J. G. Yu et al. Alumina Recovery from Kaolin with Mineral Impurities[J]. Journal of Wuhan University of Technology-Mater. Sci. Ed. 2012, 27(6):1139-1143.
9. X. C. Qiao, C.R. Cheeseman, C.S. Poon. Influences of chemical activators on incinerator bottom ash. Waste Management, 2009, 29(2), 544-549.
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11. X.C. Qiao, M. Tyrer, C.S. Poon, C.R. Cheeseman. Characterization of alkali-activated thermally treated incinerator bottom ash [J]. Waste Management, 2008, 28(10), 1955-1962.
12. X. C. Qiao, B.R. Ng, M. Tyrer, C.S. Poon and C.R. Cheeseman. Novel Cementitious Materials Produced from Incinerator Bottom Ash [J]. Resources, Conservation & Recycling, 2008, 52(3): 496-510.
13. X. C. Qiao, B.R. Ng, M. Tyrer, C.S. Poon and C.R. Cheeseman. Production of lightweight concrete using incinerator bottom ash [J], Construction and Building Materials, 2008, 22(4): 473-480.
14. X. C. Qiao, C.S. Poon, C.R. Cheeseman. Investigation into the stabilization/solidification performance of Portland cement through cement clinker phases, Journal of hazardous Materials, 2007, 139(2): 238-243.
15. X. C. Qiao, C.S. Poon, E. Chung. Comparative studies of three methods for activating rejected fly ash, Advances in Cement Research, 2006, 18(4): 165-170.
16. X. C. Qiao, C.S. Poon and C.R. Cheeseman. Transfer mechanisms of contaminants in cement-based stabilized/solidified wastes, Journal of Hazardous Materials, 2006, 129 (1-3): 290-296.
17. X. C. Qiao, C.S. Poon and C.R. Cheeseman. Use of flue gas desulphurisation (FGD) waste and rejected fly ash in waste stabilization/solidification systems [J], Waste Management, 2006, 26 (2): 141-149.
18. C.S Poon, X. C. Qiao and D. Chan. The cause and influence of self-cementing properties of fine recycled concrete aggregates on the properties of unbound sub-base [J], Waste Management, 2006, 26 (10): 1166-1172.
19. C.S Poon, X. C. Qiao, C.R. Cheesema et al. Feasibility of using reject fly ash in cement-based stabilization/solidification processes [J], Environmental Engineering Science, 2006, 23: 14-23.
20. C.S. Poon, X.C. Qiao and Z.S. Lin. Effects of flue gas desulphurization sludge on the pozzolanic reaction of reject-fly-ash-blended cement pastes [J], Cement and Concrete Research, 2004, 34 (10): 1907-1918.
21. C.S. Poon, X.C. Qiao and Z.S. Lin. Pozzolanic properties of reject fly ash in blended cement pastes, Cement and Concrete Research, 2003, 33 (11): 1857-1865.
22. X. C. Qiao, C.S. Poon and Z.S. Lin. Activation of rejected fly ash using flue gas desulphurization (FGD) sludge, Journal of Wuhan University of Technology-Materials Science Edition, 2003, 18 (4): 84-88.
23. Q. Luo, G. I. Chen, Y. Z. Sun, Y. M. Ye, X. C. Qiao, J. G. Yu. Dissolution Kinetics of Aluminum, Calcium, and Iron from Circulating Fluidized Bed Combustion Fly Ash with Hydrochloric Acid. Industrial & Engineering Chemistry Research, 2013, 52(51):18184–18191.

Some Journal Papers in Chinese

1. 谢晓影, 乔秀臣. 微波烧结的“热点”形成机制. 微波学报, 2016, 32(5):84-88.
2. 张孜渊, 乔秀臣, 于建国. 微波快速活化粉煤灰提铝. 中国科技论文, 2014(9):981-984.
3. 周华梅, 乔秀臣. 粉煤灰提铝协同制备硼酸探索. 武汉理工大学学报, 2013, 35(8):120-123.
4. 王金磊, 乔秀臣. 碳酸钠-粉煤灰烧结样中铝、铁、硅的酸浸规律. 华东理工大学学报: 自然科学版, 2013, 39(6):685-688.
5. 司鹏, 乔秀臣, 于建国. 煅烧气氛对煤系高岭岩热活化的影响. 华东理工大学学报: 自然科学版, 2011, 37(5):571-576.
6. 周华梅, 乔秀臣, 于建国. F型粉煤灰氧化铝提取潜力. 华东理工大学学报: 自然科学版, 2011, 37(5):577-581.
7. 司鹏, 乔秀臣, 于建国. 机械力化学效应对高岭石铝氧多面体的影响. 武汉理工大学学报, 2011, 33(5):22-26.
8. 周华梅, 乔秀臣, 于建国. 低品位高岭土制备莫来石的研究. 武汉理工大学学报, 2011, 33(3):121-125.
9. 周波, 乔秀臣, 宋兴福, 汪谨, 刘够生, 于建国. 基于遗传神经网络的高强高掺粉煤灰材料设计. 华东理工大学学报: 自然科学版, 2009, 35(5):684-687.
10. 乔秀臣, 林宗寿, 寇世聪, 潘智生. 重金属在废弃粉煤灰-水泥固化体系内的迁移. 武汉理工大学学报, 2005, 27(10):11-14.
11. 乔秀臣, 林宗寿, 寇世聪, 潘智生. 废弃粗粉煤灰-水泥系统固化重金属废弃物的探讨. 武汉理工大学学报, 2005, 27(3):23-26.
12. 乔秀臣, 林宗寿, 寇世聪, 潘智生. 用碱式硫酸盐激发废弃粗粉煤灰的研究. 武汉理工大学学报, 2004, 26(6):8-10.
13. 乔秀臣, 林宗寿, 寇世聪, 潘智生. 化学激发剂对废弃粗粉煤灰火山灰活性的影响. 武汉理工大学学报, 2004, 26(4):42-44.
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Some Patents:

1. 乔秀臣, 王金磊. 活化煤气化灰渣实现铝铁钙分离的方法, CN103305686B, 2016
2. 乔秀臣. 一种有机物细粒污泥的干化方法与移动式干化系统, CN104150738B, 2016
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4. 乔秀臣. 一种无机物细粒污泥的干化方法与移动式干化系统, CN104150739B, 2015
5. 乔秀臣, 司鹏. 提高煤矸石活性的节能煅烧方法, CN102553882B, 2014
6. 乔秀臣. 聚合氯化铝铁钙的制备方法, CN102765788B, 2014
7. 乔秀臣, 司鹏. 免煅烧活化煤矸石的方法, CN102527692B, 2014
8. 乔秀臣, 金鑫. 聚合氯化铝钙的制备方法, CN102765789B, 2014