



Department: School of Resources and Environmental Engineering
Professional field: Chemical Engineering and Technology
Environmental Science and Engineering
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Profile

Chair Professor, National Educational Inspector, former Vice President of East China University of Science and Technology, Field Expert in Resource and Environment Technology of National 863 Program in the 11th Five Year Plan and Subject Expert in the field of Resource in the 12th Five Year Plan, Vice Director of the Teaching and Guiding Committee of the Education Ministry for Higher Chemical Engineering Education from 2013 to 2017, Appraisal Group Membership of the Academic Degrees Committee of the State Council for Chemical Engineering and Technology, Vice Chairman of the Shanghai Society of Chemistry and Chemical Industry, and President of Shanghai Association of Inventions, etc. He is mainly engaged in the comprehensive utilization of brine resources and the research on the recycling of bulk industrial wastes. He has successively undertaken more than 40 national, provincial projects, namely National Key R&D Plan of China, National Natural Science Foundation of China, National High-tech R&D Program (863 Program), National Science and Technology Support Program. He was awarded two second class prizes of the State Science and Technology Advancement Award, and four first class prizes and two second class prizes of Provincial and Ministerial Science and Technology Awards. He has published more than 300 academic papers and 80 national invention patents. He also has the prizes of Leading Talent of National Environmental Protection Professional Technology, Shanghai Scientific and Technological Elite, Hou Debang Science and Technology Achievement Award of China Chemical Industry Society, etc.

Educational Background

1998-PhD in Chemical Engineering, ECUST & University of Porto

1988-Mater in Inorganic Chemical Engineering, ECICT

1982-Bachelor in Inorganic Chemical Engineering, ECICT

Research Field

- (1) Technology development of brine resource separation and treatment of high-salt wastewater
- (2) Resource utilization of bulk industrial solid wastes

Research results and selected published papers

- (1) Jianguo Yu, Xingfu Song, Xiaosong Li, Guimin Lu, Kangmin Xie, Shuying Sun, Huilin Li, Gousheng Liu, Ze Sun, Shengfu Liu. The State Science and Technology Advancement Award, Second Class Prize, 2011.
- (2) Xingfu Wang, Xiaosong Li, Shijun Wang, Jianguo Yu, Kangmin Xie, Jizhong Hai, Xingfu Song, Yuehua Feng, Huilin Li, Shengfu Liu, Jinyi Zhu, Baocheng Yan, Shumin Li, Hongbin Tian, Yuanhai Zhao. The State Science and Technology Advancement Award, Second Class Prize, 2015.
- (3) Jianguo Yu, Xingfu Song, Xiaosong Li, Guimin Lu, Kangmin Xie, Shuying Sun, Huilin Li, Jin Wang, Gousheng Liu, Shijun Wang, Ze Sun, Qinhui Zhang. Shanghai Science and Technology Advancement Award, First Class Prize, 2011
- (4) Liangbin Li, Xiaoxiong Xu, Jianguo Yu, Xuewu Huang, Guimin Lu, Yucheng Li, Xingfu Song, Qingsheng Li, Yanming Cui, Ze Sun, Jianping Chen, Xiaoyong Dai, Jinrong Wang, Min Lu, Weiqing Tang. Industrial Science and Technology Award of China Non-Ferrous Metals Industry Association, First Class Prize, 2019
- (5) Jian-Guo Yu, Qin-Hui Zhang, Shu-Ying Sun, Shao-Peng Li, Xian-Sheng Yin. Nanocrystals: Properties, Preparation and Applications (Synthesis, Characterization and Properties of Nanoxide Lithium Ion-Sieves), NOVA Science publishers, NY, 2010
- (6) Ze Sun, Guimin Lu, Xingfu Song, Shuying Sun, Yuzhu Sun, Jin Wang, Jianguo Yu. Fluid Dynamics, Computational Modeling and Applications (Multi-phase flow field in electrolysis magnesium industry), InTech Publisher, 2012
- (7) Dong-Fan Liu, Shu-Ying Sun*, Jian-Guo Yu*. A new high-efficiency process for Li⁺ recovery from solutions based on LiMn₂O₄/λ-MnO₂ materials, Chemical Engineering Journal, 2019, 377, 119825
- (8) Chunhua Dong, Xingfu Song, Jie Zhang, Hang Chen, Evert Jan Meijer*, Jianguo Yu*. Selecting solvents for intensification of thermal dissociation of tri-n-octylamine hydrochloride by calculating infrared spectra from ab initio molecular dynamics, Chemical Engineering Journal, 2019, 377, 120120.
- (9) Junxiang Ye, Yanxia Xu*, Xingfu Song, Jianguo Yu*. Numerical modelling and multi-objective optimization of the novel hydrocyclone for ultra-fine particles classification, Chemical Engineering Science, 2019, 207, 1072-1084.
- (10) Junxiang Ye, Yanxia Xu*, Xingfu Song, Jianguo Yu*. Novel Conical Section Design for Ultra-Fine Particles Classification by a Hydrocyclone. Chemical Engineering Research and Design, 2019, 144, 135-149.
- (11) Chunhua Dong, Xingfu Song*, Yunzhao Li, Chenglin Liu, Hang Chen, Jianguo Yu*. Impurity Ions Effect on CO₂ Mineralization via Coupled Reaction-Extraction-Crystallization Process of CaCl₂ Waste Liquids, Journal of CO₂ Utilization, 2018, 27, 115-128.
- (12) Chunhua Dong, Xingfu Song, Jie Zhang, Dongfan Liu, Evert Jan Meijer, Jianguo Yu*. Thermodynamics and Kinetics Analysis of Thermal Dissociation of Tri-n-octylamine Hydrochloride in Open System: A DFT and TGA study, Thermochimica Acta, 2018, 670, 35-43.
- (13) Chunhua Dong, Xingfu Song, Jie Zhang, Evert Jan Meijer, Hang Chen, Jianguo Yu*. Insight into Thermal Dissociation of Tri-n-octylamine Hydrochloride: The Key to Realizing CO₂ Mineralization with Waste Calcium/Magnesium Chloride Liquids, Energy Science and Engineering, 2018, 6(5), 437-447.
- (14) Youfa Jiang, Chenglin Liu*, Jin Xue, Ping Li, Jianguo Yu*. Insights into the Polymorphic Transformation Mechanism of Aluminum Hydroxide during Carbonation of Potassium Aluminate Solution, Crystengcomm, 2018, 20, 1431-1442.
- (15) Jie Zhang, Xiaqing Zhou, Chunhua Dong, Yuzhu Sun*, Jianguo Yu*. Investigation of amorphous calcium carbonate's formation under high concentration of magnesium: The prenucleation cluster pathway, Journal of Crystal Growth, 2018, 494, 8-16.
- (16) Jie Zhang, Chunhua Dong, Yuzhu Sun*, Jianguo Yu*. Mechanism of Magnesium's Influence on Calcium Carbonate Crystallization: Kinetically Controlled Multistep Crystallization, Crystal Research and Technology, 2018, 53(8), 1800075.
- (17) Li-Po He, Shu-Ying Sun*, Jian-Guo Yu*. Performance of LiNi_{1/3}Co_{1/3}Mn_{1/3}O₂ prepared from spent lithium-ion batteries by a carbonate co-precipitation method, Ceramics International, 2018, 44(1), 351-357.
- (18) Jie Zhang, Yuzhu Sun*, Jianguo Yu*. Qualitative discussion of prenucleation cluster role in crystallization of calcium carbonate under high concentration of magnesium based on experimental phenomena, Journal of Crystal Growth, 2017, 478, 77-84.
- (19) Li-Po He, Shu-Ying Sun*, Xing-Fu Song, Jian-guo Yu*. Leaching process for recovering valuable metals from the LiNi_{1/3}Co_{1/3}Mn_{1/3}O₂ cathode of lithium-ion batteries, Waste Management, 2017, 64, 171-181.
- (20) Li-Po He, Shu-Ying Sun*, Yan-Yu Mu, Jian-guo Yu*. Recovery of lithium, nickel, cobalt, and manganese from spent lithium-ion batteries using L-tartaric acid as a leachant, ACS Sustainable Chemistry & Engineering, 2017, 5(1), 714-721.
- (21) Guilan Chen, Xingfu Song, Shuying Sun, Yanxia Xu, Jianguo Yu*. Effects of NO₃⁻ and SO₄²⁻ ions on the coupled reaction-extraction-crystallization process of MgCl₂ and CO₂, Industrial & Engineering Chemistry Research, 2017, 56 (24), 7100-7108.
- (22) Rongyan Wang, Guimin Lu, Jianguo Yu*. Effect of erucic acid on the rheological and surface properties of coal tar pitch, International Journal of Adhesion & Adhesives, 2017, 75, 108-113.
- (23) Mengjie Luo, Chengling Liu, Jin Xue, Ping Li, Jianguo Yu*. Green recovery of potassium and aluminum elements from alunite tailings using gradient leaching process, Journal of Cleaner Production, 2017, 168(1), 1080-1090.
- (24) Mengjie Luo, Chengling Liu, Jin Xue, Ping Li, Jianguo Yu*. Determination of metastable zone width of potassium sulfate in aqueous solution by ultrasonic sensor and FBRM, Journal of Crystal Growth, 2017, 469, 144-153.
- (25) Mengjie Luo, Chenglin Liu, Jin Xue, Ping Li *, Jianguo Yu*. Leaching kinetics and mechanism of alunite from alunite tailings in highly concentrated KOH solution, Hydrometallurgy, 2017, 174, 10-20.
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- (27) Li-Po He, Shu-YingSun*, Xing-Fu Song, Jian-Guo Yu*. Leaching process for recovering valuable metals from the LiNi_{1/3}Co_{1/3}Mn_{1/3}O₂ cathode of lithium-ion batteries, Waste Management, 2017, 64, 71-181.
- (28) Xiao-Yao Nie, Shu-Ying Sun*, Ze Sun, Xingfu Song, Jian-Guo Yu*. Further investigation into lithium recovery from salt lake brines with different feed characteristics by electrodialysis, Journal of Membrane Science, 2017, 530, 185-191.
- (29) Hang Chen, Ze Sun, Xingfu Song, Jianguo Yu*. Operating regimes and hydrodynamics of a pilot-scale rotating disc contactor by CFD-PBM simulation, Chemical Engineering Technology, 2017, 40(3), 498-505.
- (30) Hang Chen, Ze Sun*, Xingfu Song, Jianguo Yu*. A pseudo-3D model with 3D accuracy and 2D cost for the CFD-PBM simulation of a pilot-scale rotating disc contactor, Chemical Engineering Science, 2016, 139, 27-40.
- (31) Guilan Chen, Xingfu Song, Chunhua Dong, Shunying Sun, Ze Sun, Jianguo Yu*. Mineralizing CO₂ as MgCO₃·3H₂O Using Abandoned MgCl₂ Based on a Coupled Reaction - Extraction - Alcohol Precipitation Process, Energy & Fuels, 2016, 30, 7551-7559.
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- (35) Yunzhao Li, Xingfu Song, Guilan Chen, Ze Sun, Yanxia Xu, Jianguo Yu*. Preparation of calcium carbonate and hydrogen chloride from distiller waste based on reactive extraction-crystallization process, Chemical Engineering Journal, 2015, 278, 55-51.
- (36) Jingcai Zhao, Xingfu Song, Yuzhu Sun, Bo Chen, Jianguo Yu. Study on crystallization of calcium carbonate from calcium sulfate and ammonium carbonate in the presence of magnesium ions, Crystal Research and Technology, 2015, 50(4), 277-283.
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- (40) Li-Po He, Shu-Ying Sun*, Xing-Fu Song, Jian-Guo Yu*. Recovery of cathode materials and Al from spent lithium-ion batteries by ultrasonic cleaning, Waste Management , 2015, 46, 523-528.