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### Academic Qualification:

**Ph.D.** in Research Center for Eco-Environmental Science, Chinese Academy of Science

**MSc** in Department of Environmental Science, Nankai University

**BSc** in Department of Environmental Science, Nankai University

### Teaching Area

Environmental risk Assessment

Hazardous waste disposal technologies

Environmental diplomacy and negotiation

Global Ecological Outlook

### Research Area

Global environmental governance and international environmental conventions

Solid waste and chemicals management policies

Standardization of carbon emissions in the solid waste industry and the construction of "Zero waste cities"

### Working Experience

2011.01-present Professor, doctoral supervisor, School of Environment, Tsinghua University

2004.12-2011.01 Professor, doctoral supervisor, Department of Environmental Science and Engineering, Tsinghua University

1999.07-2004.12 Associate professor, Department of Environmental Science and Engineering, Tsinghua

1997.08-1999.06 Post doctorate, Department of Environmental Science and Engineering, Tsinghua University

1991.04-1994.03 Staff, assistant engineer, engineer. Dahua Refined Chemicals Ltd. in Qinhuangdao

1990.08-1991.04 Official, assistant engineer. Qinhuangdao Beidaihe Environmental Protection Agency

### Academic Publication ( selected )

- 1) Jiadong Yu, Shujuan Zou, Guiyin Xu, Lili Liu, Ming Zhao, Jinhui Li\*. In-situ enhanced catalytic reforming behavior of cobalt-based materials with inherent zero-valent aluminum in spent lithium ion batteries [J]. Applied Catalysis B: Environmental, 2022, 303: 120920.
- 2) Mahmoud Bakry, Jinhui Li, and Xianlai Zeng. Evaluating global niobium flow modeling and its market forecasting. Frontiers in Energy 2022, <https://doi.org/10.1007/s11708-022-0823-y>
- 3) Xianlai Zeng, Oladele A. Ogunseitan, Shinichiro Nakamura, Sangwon Suh, Ulrich Kral, Jinhui Li, and Yong Geng. Reshaping global policies for circular economy [J]. Circular Economy 2022, 100003
- 4) Qudsia Kanwal, Xianlai Zeng, Jinhui Li\*. Drivers-pressures-state-impact-response framework of hazardous waste management in China [J]. Critical Reviews in Environmental Science and Technology, 2022, 52 (16), 2930-
- 5) Xianlai Zeng, Tongxin Xiao, Guochang Xu, Eva Albalghiti, Guijuan Shan, and Jinhui Li\*. Comparing the costs and benefits of virgin and urban mining. Journal of Management Science and Engineering, 2022, 2022, 7 (1), 98-
- 6) Youping Miao, Lili Liu, Yuping Zhang, Quanyin Tan, Jinhui Li\*. An overview of global power lithium-ion batteries and associated critical metal recycling [J]. Journal of Hazardous Materials, 2022, 425: 127900.
- 7) Disna Eheliyagoda, Jinhui Li, Yong Geng, Xianlai Zeng. The role of China's aluminum recycling on sustainable resource and emission pathways. Resources Policy 2022, 76, 102552.

- 8) Yangyang Liang, Quanyin Tan, Qingbin Song, Jinhui Li\*. An analysis of the plastic waste trade and management in Asia [J]. *Waste Management*, 2021, 119: 242-253.
- 9) Mengmeng Wang, Quanyin Tan, Qifei Huang, Lili Liu, Joseph F. Chiang, Jinhui Li\*. Converting spent lithium cobalt oxide battery cathode materials into high-value products via a mechanochemical extraction and thermal reduction route [J]. *Journal of Hazardous Materials*, 2021, 413: 125222.
- 10) Xianlai Zeng\*, Jinhui Li\*. Emerging anthropogenic circularity science: principles, practices, and challenges [J]. *iScience*, 2021, 24(3): 102237.
- 11) Jiadong Yu, Minsong Lin, Quanyin Tan\*\*, Jinhui Li\*. High-value utilization of graphite electrodes in spent lithium-ion batteries: From 3D waste graphite to 2D graphene oxide [J]. *Journal of Hazardous Materials*, 2021,
- 12) Francesca Dal Mas, Xianlai Zeng, Qifei Huang, Jinhui Li\*. Quantifying material flow of oily sludge in China and its implications [J]. *Journal of Environmental Management*, 2021, 287: 112115.
- 13) Kang Liu, Lili Liu, Quanyin Tan\*, Jinhui Li\*. Selective extraction of lithium from a spent lithium iron phosphate battery by mechanochemical solid-phase oxidation [J]. *Green Chemistry*, 2021, 23(3): 1344-1352.
- 14) Xianlai Zeng, Saleem H. Ali, and Jinhui Li. Estimation of waste outflows for multiple product types in China from 2010-2050. *Scientific Data*, 2021. 8, (1), 15.
- 15) Mengmeng Wang, Quanyin Tan, Lili Liu, Jinhui Li\*. Selective regeneration of lithium from spent lithium-ion batteries using ionic substitution stimulated by mechanochemistry [J]. *Journal of Cleaner Production*, 2021, 279:
- 16) Yuan Chen, Abhishek Kumar Awasthi, Fan Wei, Quanyin Tan, Jinhui Li\*. Single-use plastics: Production, usage, disposal, and adverse impacts [J]. *Science of the Total Environment*, 2021, 752: 141772.
- 17) Yangyang Liang, Qingbin Song\*, Gang Liu, Jinhui Li\*. Uncovering residents and restaurants' attitude and willingness toward effective food waste management: A case study of Macau [J]. *Waste Management*, 2021, 130:
- 18) Jiadong Yu, Yanjun Liu, Shiping Han, Quanyin Tan, Lili Liu, Jinhui Li\*. Unveiling Sodium Ion Pollution in Spray-Dried Precursors and Its Implications for the Green Upcycling of Spent Lithium-Ion Batteries [J]. *Environmental Science & Technology*, 2021, 55(21): 14897-14905.
- 19) Jiadong Yu , Quanyin Tan \*\*, Jinhui Li\* · Exploring a green route for recycling spent lithium-ion batteries:Revealing and solving deep screening problem. *Journal of Cleaner Production* 255 (2020) 12026
- 20) Kang Liu, Quanyin Tan, Lili Liu, Jinhui Li\*. From lead paste to high-value nano-lead sulfide products: a new application of mechanochemistry in the recycling of spent lead-acid batteries. *ACS Sustainable Chemistry & Engineering* (2020), 8, (9), 3547-3552.
- 21) Chen Yuan, Li Jinhui\*, Tan Quanyin. Trends of Production, Consumption and Environmental Emissions of Decabromodiphenyl Ether in Mainland China. *Environmental Pollution*, 2020,260:114022.
- 22) Quanyin Tan, Lili Liu, Miao Yu, Jinhui Li\*. An Innovative Method of Recycling Metals in Printed Circuit Board (PCB) Using Solutions from PCB Production." *Journal of Hazardous Materials* (2020): 121892.
- 23) Xianlai Zeng, Saleem H. Ali, Jinping Tian, Jinhui Li\*. Mapping Anthropogenic Mineral Generation in China and its Implications for a Circular Economy. *Nature Communications*, 2020,11(1)
- 24) Yu Jiadong, Lin Minsong, Tan Quanyin\*, Li Jinhui\*. High-value utilization of graphite electrodes in spent lithium-ion batteries: From 3D waste graphite to 2D graphene oxide. *Journal of Hazardous Materials*. (401), 2021,
- 25) Wang Mengmeng, Tan Quanyin, Liu Lili, Li Jinhui\*, Selective regeneration of lithium from spent lithium-ion batteries using ionic substitution stimulated by mechanochemistry. (279), 2021, 123612.
- 26) Awasthi Abhishek Kumar\*, Tan Quanyin, Li Jinhui\*, Biotechnological Potential for Microplastic Waste. *Trends in biotechnology*. (38), 2020, 1196-1199.
- 27) Liang Yangyang, Tan Quanyin\*, Song Qingbin; Li, Jinhui\*. An analysis of the plastic waste trade and management in Asia. *Waste management*. (119), 2020, 242-253.
- 28) Chen Yuan, Awasthi Abhishek Kumar, Wei Fan, Tan Quanyin, Li Jinhui\*. Single-use plastics: Production, usage, disposal, and adverse impacts. *The Science of the total environment*. (752), 2020, 141772.
- 29) Eheliyagoda, Disna; Zeng, Xianlai; Li, Jinhui\*. A method to assess national metal criticality: the environment as a foremost measurement. *Humanities and Social Sciences Communications volume*. (7), 2020, 43.
- 30) Wang Mengmeng, Tan Quanyin, Liu Lili, Li Jinhui\*, Revealing the Dissolution Mechanism of Polyvinylidene Fluoride of Spent Lithium-Ion Batteries in Waste Oil-Based Methyl Ester Solvent. *ACS Sustainable Chemistry & Engineering*. (8), 2020, 7489-7496.

- 31) Tan Quanyin, Liu Lili, Yu Miao, Li Jinhui\*. An innovative method of recycling metals in printed circuit board (PCB) using solutions from PCB production. *Journal of Hazardous Materials*. (390), 2020, 121892.
- 32) Yu Jiadong, Tan Quanyin\*, Li Jinhui\*. Exploring a green route for recycling spent lithium-ion batteries: Revealing and solving deep screening problem. *Journal of Cleaner Production*. (255), 2020, 120269.
- 33) Zhao Ming, Memon Muhammad, Ji Guozhao, Yang Xiaoxiao, Vuppaladadiyam, Arun K., Song Yinqiang, Raheem Abdul, Li Jinhui\*, Wang Wei, Zhou Hui. Alkali metal bifunctional catalyst-sorbents enabled biomass pyrolysis for enhanced hydrogen production. *Renewable Energy*. (148), 2020, 168-175.
- 34) Liu Kang, Tan Quanyin, Liu Lili, Li Jinhui\*. From Lead Paste to High-Value Nanolead Sulfide Products: A New Application of Mechanochemistry in the Recycling of Spent Lead-Acid Batteries. *ACS Sustainable Chemistry & Engineering* (8), 2020, 3547-3552.
- 35) Disna Eheliyagod, Fan Wei, Guijuan Shan, Eva Albalghiti, Xianlai Zeng\*, Jinhui Li\*. Examining the Temporal Demand and Sustainability of Copper in China." *Environmental science & technology* 53.23 (2019): 13812-13821.
- 36) Abhishek Kumar Awasthi, Jinhui Li\*. Sustainable Bioprospecting of Electronic Waste - Trends in biotechnology, 2019, 37 (7), 677-680
- 37) Mengmeng Wang, Quanyin Tan, Lili Liu, Jinhui Li\*, A low-toxicity and high-efficiency deep eutectic solvent for the separation of aluminum foil and cathode materials from spent lithium-ion batteries, *Journal of Hazardous Materials* 380 (2019) 120846.
- 38) Disna Eheliyagoda, Xianlai Zeng\*, Zhishi Wang, Eva Albalghiti, Jinhui Li\*, Forecasting the temporal stock generation and recycling potential of metals towards a sustainable future: The case of gallium in China, *Science of the Total Environment* 689 (2019) 332-340.
- 39) Kang Liu, Quanyin Tan, Lili Liu, Jinhui Li\*, Acid-Free and Selective Extraction of Lithium from Spent Lithium Iron Phosphate Batteries via a Mechanochemically Induced Isomorphic Substitution, *Environmental Science & Technology* 53 (2019) 9781-9788.
- 40) Mengmeng Wang, Quanyin Tan, Lili Liu, Jinhui Li\*, A Facile, Environmentally Friendly, and Low-Temperature Approach for Decomposition of Polyvinylidene Fluoride from the Cathode Electrode of Spent Lithium-ion Batteries, *ACS Sustainable Chemistry & Engineering* 7 (2019) 12799-12806.
- 41) Abhishek Kumar Awasthi, Jinhui Li\*, Sustainable Bioprospecting of Electronic Waste, *Trends in Biotechnology* 37 (2019) 677-680.
- 42) Abhishek Kumar Awasthi, Jinhui Li\*, Mechano-microbial systems: An ecofriendly approach for copper bioleaching from waste printed circuit board, *Waste Management & Research* 37 (2019) 656-661.
- 43) Mengmeng Wang, Quanyin Tan, Lili Liu, Jinhui Li\*, Efficient Separation of Aluminum Foil and Cathode Materials from Spent Lithium-Ion Batteries Using a Low-Temperature Molten Salt, *ACS Sustainable Chemistry & Engineering* 7 (2019) 8287-8294.
- 44) Yuan Chen, Shite Li, Quanyin Tan, Jinhui Li\*. Youping Miao. Study on WEEE cpllection and recycling sheme in typical ASIA-PACIFIC countries, *Environmental Engineering and Management Journal* 18 (2019) 1487-1498.
- 45) Abhishek Kumar Awasthi, Jinhui Li, Lenny Koh & Oladele A. Ogunseitan\*, Circular economy and electronic waste, *Nature Electronics* 2 (2019) 86-89.

## Books

- 1) Li Jinhui, Tan Quanyin, Liu Lili, et al, *Electronic Waste Collaborative Recycling and Processing Technology and Application*, 2022, China Environment Publishing Group
- 2) Zhou Zhiqiang and Li Jinhui, *Zero-waste city construction: Model Exploration and Cases*, 2021, Science Press
- 3) Li Jinhui, *Environmental Management Blue Book - China Environmental Management Development Report (2020~2021)*, 2021, Social Science Academic press(China)
- 4) Qian Yi and Li Jinhui, *Theoretical Research on Ecological Civilisation Construction*, 2020, Science Press
- 5) Chen Yong, Huhe Taoli, Li Jinhui, Lei Tingzhou, Wen Zongguo, et al, *Research on Ecological Civilisation Construction and Development Strategy in Central China*, 2020, Science Press

## Patents ( selected )

- 1) Zeng Xianlai; Li Jinhui. Waste Recyclability Resource Attribute Assessment System V1.0. Certificate No. 7258246, 2021.1.15

- 2) Li Jinhui, Sun Qianyu, Zeng Xianlai, Liu Lili, Tan Quanyin, Zhang Guobin, a method for comprehensive recovery of copper and iron minerals in metal tailings, China, patent number: ZL202010795020.8
- 3) Li Jinhui, Liu Kang, Liu Lili, and Tan Quanyin, a method of converting lead paste from spent lead-acid batteries into nano-lead sulfide, China, Patent No.: ZL 201910410759X
- 4) Li Jinhui, Liu Kang, Liu Lili, and Tan Quanyin, a method for in-situ adsorption of fluoride in waste lithium batteries using high-speed iron slag, China, patent number: ZL2019104107655
- 5) Li Jinhui, Liu Kang, Liu Lili, and Tan Quanyin, a method for separating waste lithium battery cathode materials and aluminum foil using red mud, China, patent number: ZL2019104138899

#### Professional Certification and Awards

- 1) 2021, "Chang Jiang Scholars Program" Distinguished Professor, Ministry of Education of the People's Republic
- 2) 2016, Leading talent in national environmental protection professional technical field, Ministry of Environmental Protection of the People's Republic of China
- 3) 2016, The second prize of Science and Technology Progress Award, Development and application of Urban circular economy development of generic technology. Ministry of Science and Technology of the People's Republic of China (ranked 1)
- 4) 2021, First Prize of Hubei Province Technological Invention Award, "Key Technology for Closed-circuit Recycling of Retired Power Lithium Batteries" (ranked 2)
- 5) 2021, Innovative Technology for Making Value-added Functional Building Brick from Municipal Solid Waste Incineration Fly Ash, International Exhibition of Inventions of Geneva · Silver Award (ranked 1)
- 6) 2019, First Prize of the China Environmental Protection Industry Association Environmental Technology Progress Award, Typical High Efficiency Recycling and Pollution Control Technology of Nonferrous Metals (ranked

#### Student Awards

#### Professional Society Membership

- 1) 2002-present Executive Director, Basel Convention Regional Centre for Asia and the Pacific
- 2) 2009-present Executive Director, Stockholm Convention Regional Centre for Capacity-building and the transfer to Technology in Asia and the Pacific
- 3) 2014-present Director, the Environmental Management Professional Committee of the China management Science Society
- 4) 2016-present Director, the Circular Economy Branch of the Chinese Society for Environmental Sciences
- 5) 2017-present Secretary General, Solid Waste Treatment and Utilization Committee of China Association of Environmental Protection Industry