Personal profiles

Name	Xu Tian	**Gender**	Female
Email	tianxu@sjtu.edu.cn	**Tel.**	13585900448
Research field	Resource and environmental management; emergy; trade sustainability; circular economy; digital technology and sustainability		

Education and work experience

Education background:

2013.9-2016.7 University of Chinese Academy of Science- Shenyang Institute of Applied Ecology major: Industrial ecology PhD degree

2009.9-2012.7 Shenyang Normal University-School of Life Sciences major: Zoology Master degree

2005.9-2009.7 Shenyang Normal University-School of Life Sciences major: Environmental science Bachelor degree

Work experience:

2020.7-now Shanghai Jiao Tong University - School of International and Public Affairs, Associate Professor

2016.7-2020.7 Shanghai Jiao Tong University - School of Environmental Science and Engineering, Post doctor

2018.12-2019.12 University College London-The Bartlett School of Environment, Energy and Resources, Post doctor

2012.7-2013.9 University of Chinese Academy of Science- Shenyang Institute of Applied Ecology major: Industrial ecology, Researcher

Oversea experience

2019.11 Leeds University Visiting scholar

2019.8 International Institute for Applied Systems Analysis Visiting scholar

2019.7 Cardiff University Visiting scholar

2018.1 National Institute for Environmental Studies Visiting scholar

2015.4-2015.5 Parthenope University of Naples Visiting scholar

2015.1-2015.2 National Institute for Environmental Studies Visiting scholar

2014.5-2014.6 National Institute for Environmental Studies Visiting scholar

2013.2-2013.3 National Institute for Environmental Studies Visiting scholar

Academic Achievements

Publication links:

Researchgate: https://www.researchgate.net/profile/Xu_Tian3

Google scholar: https://scholar.google.com.hk/citations?hl=zhCN&user=PIXIlKUAAAAJ

ORCID ID: https://orcid.org/0000-0003-3265-5725

Major publications（SCI/SSCI）:

1 Wang, X.B., **Tian, X.***, Geng, Y*. Uncovering the key determinants on the disruption of ores supply. **Resources, Conservation and Recycling** 2025, 212, 107953.

2 **Tian, X.***, Sarkis, J. 2024. AI could transform metal recycling globally. **Nature** 625, 241.

3 **Tian, X.**, Sarkis, J., Wei, C., Geng, Y. Pan, H.Z., Liu, Z.X., Ulgiati, S. 2024. Greening the Belt and Road Initiative: Evidence from emergy evaluation of China's provincial trade with ASEAN countries. **Fundamental Research** 4, 379-393.

4 **Tian, X.,** Sarkis, J. 2022. Emission burden concerns for on-line shopping returns. **Nature Climate Change** 12, 2-3.

5 **Tian, X.,** Sarkis, J. 2022. Embodied Land Resources Trade in Major African Countries: A Global Trade and Supply Chains Perspective. In: Frei, R., Ibrahim, S., Akenroye, T. (eds) Africa and Sustainable Global Value Chains. Greening of Industry Networks Studies, vol 9. Springer, Cham. https://doi.org/10.1007/978-3-030-78791-2_4

6 Zhong, SZ., **Tian, X.***, Geng, Y., Santagata, R., Zhuang, MF., Chen, W., Yang, S., Ulgiati, S. 2022. Sustainability assessment in the anthropocentric watershed based on emergy and decomposition methods: A case study of Erhai Lake Basin, southwest China. **Ecological Indicators** 139, 108932.

7 Zhang, J.M., **Tian, X.,*** Chen, W., Geng, Y., Wilson, J. 2022. Measuring environmental impacts from primary and secondary copper production under the upgraded technologies in key Chinese enterprises. **Environmental Impact Assessment Review** 96, 106855.

8 Chen, W*., Zhang, Q., Gao, Z.Y., Geng, Y., Cheng, Y., **Tian, X***. 2022. Exploring the drivers of energy-related CO_2 emissions in western China: a case study of Haixi, **Environment, Development and Sustainability** https://doi.org/10.1007/s10668-022-02561-7

9 **Tian, X.**, Yu, Z.J., Sarkis, J., Geng, Y. 2022. Environmental and Resource Impacts from an Aggressive Regionalized Carbon Peak Policy. **Environmental Science & Technology** 56: 12838-12851.

10 **Tian, X.,** Sarkis, J., Wei, C., Geng, Y. Pan, H.Z., Liu, Z.X., Ulgiati, S. 2022. Greening the Belt and Road Initiative: Evidence from emergy evaluation of China's provincial trade with ASEAN countries. **Fundamental Research** https://doi.org/10.1016/j.fmre.2022.11.007

11 **Tian, X.,** Geng, Y., Sarkis, J., Gao, CX., Sun, X., Micic, T., Hao, H., Wang, X. 2021. Features of critical resource trade networks of lithium-ion batteries. **Resources Policy** 73, 102177.

12 **Tian, X.,** Sarkis, J., Geng, Y., Bleischwitz, R., Qian, Y.Y., Xu, L.Q., Wu, R. 2020. Examining the role of BRICS countries at the global economic and environmental resources nexus. **Journal of Environmental Management** 262, 110330.

13 **Tian, X.,** Sarkis, J. 2020. Expanding green supply chain performance measurement through emergy accounting and analysis. **International Journal of Production Economics** 225, 107576.

14 **Tian, X.,** Dai, H.C., Geng, Y., Zhang, S.H., Xie, Y., Liu, X.R., Lu, P.T., Bleischwitz, R. 2019. Toward the 2-degree target: Evaluating co-benefits of road transportation in China. **Journal of Transport & Health** 15, 100674.

15 **Tian, X.,** Bruckner, M., Geng, Y., Bleischwitz, R. 2019. Trends and driving forces of China's virtual land consumption and trade. **Land Use Policy** 104194.

16 **Tian, X.,** Hu, YY., Yin, HT., Geng, Y., Bleischwitz, R. 2019. Trade impacts of China's Belt and Road Initiative: From resource and environmental perspectives. **Resources, Conservation and Recycling** 150, 104430.

17 Tian, X., Chen, B., Geng, Y., Zhong, SZ., Gao, CX., Wilson, J., Cui, XW., Dou, Y. 2019. Energy footprint pathways of China. **Energy** 180, 330-340.

18 Qian, YY., **Tian, X*.,** Geng, Y., Zhong, SZ., Cui, XW., Zhang, X., Moss, DA., Bleischwitz, R. 2019. Driving Factors of Agricultural Virtual Water Trade between China and the Belt and Road Countries. **Environmental Science & Technology** 53, 5877-5886.

19 **Tian, X.,** Geng, Y., Buonocore, E., Sarkis, J., Ulgiati, S. 2018. Uncovering resource losses and gains in China's foreign trade. **Journal of Cleaner Production** 191: 78-86.

20 **Tian, X.,** Geng, Y., Sarkis, J., Zhong, SZ. 2018. Trends and features of embodied flows associated with international trade based on bibliometric analysis. **Resources, Conservation & Recycling** 131: 148-157.

21 **Tian, X.,** Sarkis, J., Geng, Y., Qian, YY., Gao, CX., Bleischwitz, R., Xu, Y. 2018. Evolution of China's water footprint and virtual water trade: A global trade assessment. **Environment International** 121: 178-188.

22 **Tian, X.,** Dai, HC., Geng, Y., Wilson, J., Wu, R., Xie, Y., Hao, H. 2018. Economic impacts from PM2.5 pollution-related health effects in China's road transport sector: A provincial-level analysis. **Environment International** 115: 220-229.

23 **Tian, X.,** Geng, Y., Zhong, SZ., Wilson, J., Gao, CX., Chen, W., Yu, ZJ., Hao, H. 2018. A bibliometric analysis on trends and characters of carbon emissions from transport sector. **Transportation Research Part D** 59: 1-10.

24 **Tian, X.,** Wu, R., Geng, Y., Bleischwitz, R., Chen, YH. 2017. Environmental and resources footprints between China and EU countries. **Journal of Cleaner Production** 168: 322-330.

25 **Tian, X*.,** Geng, Y., Viglia, S., Bleischwitz, R., Buonocore, E., Ulgiati, S. 2017. Regional disparities in the Chinese economy. An emergy evaluation of provincial international trade. **Resources, Conservation & Recycling** 126: 1-11.

26 **Tian, X.,** Dai, H., Geng, Y., Huang, Z., Masui, T., Fujita, T. 2017. The effects of carbon reduction on sectoral competitiveness in China: A case of Shanghai. **Applied Energy** 197: 270-278.

27 Geng, Y., **Tian, X.*,** Sarkis, J., Ulgiati, S., 2017. China-USA trade: Indicators for equitable and environmentally balanced resource exchange. **Ecological Economics** 132:245-254.

28 **Tian, X.,** Geng, Y., Ulgiati, S., 2017. An emergy and decomposition assessment of China-Japan trade: driving forces and environmental imbalance. **Journal of Cleaner Production** 141:359-369.

29 **Tian, X.,** Geng, Y., Dong, H., Dong, L., Fujita, T., Wang, Y., Zhao, H., Wu, R., Liu, Z., Sun, L. 2016. Regional household carbon footprint in China: a case of Liaoning province. **Journal of Cleaner Production** 114: 401-411.

30 **Tian, X.,** Geng, Y., Dai, H., Fujita, T., Wu, R., Liu, Z., Masui, T., Yang, X., 2016. The effects of household consumption pattern on regional development: a case study of Shanghai. **Energy** 103:49-60.

Major International activity

2017.6 Corvinus University of Budapest 12th Conference of the European Society for Ecological Economics

2016.8 University of Sabah, Malaysia UNU-ProSPER.Net Leadership Programme-Nurturing Local Leadership Towards Sustainable Development

2015.5 Ca' Foscari Venice University 2Nd International School on Emergy Accounting

Personal Vision Statement for the Emergy Society

My journey with emergy began during my PhD. Over time, as I delved deeper into research, emergy transformed from a basic calculation tool into a rich and complex theory. It has shaped my approach to research, teaching me to think systematically and understand the world in a more holistic way. This has been incredibly rewarding, and I'm eager to share the elegance of emergy theory with a broader audience.

If I'm honored to join the committee, I'll focus on two key goals: (1) promoting emergy theory to help more Chinese scholars grasp its significance and value, and (2) leveraging digital technologies to make emergy results more practical and impactful in shaping real-world policies.