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职 称：副教授 硕导

**研究领域和方向：**元素生物地球化学与全球气候变化。主要从事自然湿地和稻田生态系统土壤有机碳的封存机理及其对环境变化的响应机制研究，包括气候变暖、海平面上升、互花米草入侵和土地利用变化等。采用稳定同位素、分子生物标志物和微宏观结构等地球化学分析手段，结合端元模型和数据集成综合分析来定量解析有机碳的来源、分布、稳定性和温室气体排放的生物地球化学循环过程。相关研究发表在 *Global Change Biology*, *Critical Reviews in Environmental Science and Technology*, *Land Degradation & Development* 等本领域国际重要学术期刊。欢迎农业资源与环境、生物科学、环境科学等专业本科生报考。

## 一、教育经历

2017 年 9 月-2021 年 6 月 天津大学地球系统科学学院，环境科学，博士

2014 年 9 月-2016 年 6 月 中国农业大学资源与环境学院，土壤学，硕士

2010 年 9 月-2014 年 6 月 河南科技大学农学院，生物技术，

本科

## 二、工作经历

2021年9月-至今，南京农业大学资源与环境科学学院，土壤学系，副教授

## 三、获奖情况

(1) 2020年，天津大学科技创新先进个人

(2) 2020年，博士研究生国家奖学金

(3) 2019年，天津市生态环境领域博士生学术论坛优秀奖

## 四、学术兼职

Peer J, Catena, Land Degradation & Development, Science of the Total Environment 等期刊审稿人

## 五、主持和参加科研项目

(1) 南京农业大学，高层次引进人才科研启动基金，2021/09-2026/09，50万元，在研，主持

(2) 国家自然科学基金重点项目，环渤海滨海湿地硅生物地球化学循环及其碳汇效应，41930862，2020/01-2024/12，298万，在研，参加

(3) 国家自然科学基金面上项目，全新世以来渤海西岸滨海湿地埋藏有机碳来源及影响因素，42171052，2022/01-2025/12，56万，在研，参加

(4) 国家自然科学基金面上项目，青藏高原高寒沼泽草甸浅层地下水对土壤呼吸的影响及机制研究，42171462，2022/01-2025/12，

56 万，在研，参加

## 六、发表论文

- (1) **Xia, S. P.**, Song, Z. L., Li, Q., Guo, L. D., Yu, C. X., Singh, B. P., Fu, X. L., Chen, C. M., Wang, Y. D., & Wang, H. L. Distribution, sources, and decomposition of soil organic matter along a salinity gradient in estuarine wetlands characterized by C:N ratio,  $\delta^{13}\text{C}$ - $\delta^{15}\text{N}$  and lignin biomarker. *Global Change Biology*, 2021, 27, 417-434.
- (2) **Xia, S. P.**, Wang, W. Q., Song, Z. L., Yakov K., Guo, L. D., Lukas, V. Z., Li, Q., Iain, P. H., Yang, Y. H., Wang, Y. D., Timothy, A. Q., Liu, C. Q., & Wang, H. L. *Spartina alterniflora* invasion controls organic carbon stocks in coastal marsh and mangrove soils across tropics and subtropics. *Global Change Biology*, 2021, 27, 1627-1644.
- (3) **Xia, S. P.**, Song, Z. L., Jeyakumar, P., Shaheen, S. M., Rinklebe, J., Ok, Y. S., Bolan, N. B., & Wang, H. L. A critical review on bioremediation technologies for Cr(VI)-contaminated soils and wastewater. *Critical Reviews in Environmental Science and Technology*, 2019, 49(12), 1027-1078. ([Highly cited papers & Hot papers](#))
- (4) **Xia, S. P.**, Song, Z. L., Wang, Y. D., Wang, W. Q., Fu, X. L., Singh, B. P., Yakov K., & Wang, H. L. Soil organic matter turnover depending on land use change: Coupling C/N ratios,  $\delta^{13}\text{C}$  and lignin biomarkers. *Land Degradation & Development*, 2021, 32, 1591-1605.
- (5) **Xia, S. P.**, Song, Z. L., Zwieten, L. V., Guo, L. D., Yu, C. X., Iain, P. H., & Wang, H. L. Silicon accumulation controls carbon cycle in wetlands through modifying nutrients stoichiometry and lignin synthesis of *Phragmites australis*. *Environmental and Experimental Botany*, 2020, 175, 104058.
- (6) **Xia, S. P.**, Song, Z. L., Jeyakumar, P., Bolan, N., & Wang, H. L. Characteristics and applications of biochar for remediating Cr(VI)-contaminated soils and wastewater. *Environmental Geochemistry and Health*, 2020, 42, 1543-1567.

- (7) **Xia, S. P.**, Guo, S. W., Xu, Y. Y., et al. The regulation of accumulation and secretion of several major inorganic cations by Chinese Iris under NaCl stress. *Journal of Plant Nutrition*, 2018, 41(1), 67-79.
- (8) Yu, C. X., Xie, S. R., Song, Z. L., **Xia, S. P.**, & Åström, M. E. Biogeochemical cycling of iron (hydr-)oxides and its impact on organic carbon turnover in coastal wetlands: a global synthesis and perspective. *Earth-Science Reviews*, 2021, 218, 103658.
- (9) Yu, C. X., Xie, S. R., Song, Z. L., **Xia, S. P.**, & Åström, M. E. Reply to comments by Thilo Rennert on “Biogeochemical cycling of iron (hydr-) oxides and its impact on organic carbon turnover in coastal wetlands: A global synthesis and perspective”. *Earth-Science Reviews* (2021) 103658. *Earth-Science Reviews*, 221.
- (10) Yang, S. L., Hao, Q., Liu, H. Y., Zhang, X. D., Yu, C. X., Yang, X. M., **Xia, S. P.**, Yang, W. H., Li, J. W., & Song, Z. L. et al. Impact of grassland degradation on the distribution and bioavailability of soil silicon: Implications for the Si cycle in grasslands. *Science of the Total Environment*, 2019, 657, 811-818.
- (11) Ma, N., Li, Z. C., **Xia, S. P.**, Zhu, Z. Z., & Song, Z. L. Retention effects of river damming on dissolved silicon. *Inland Waters*, 2018, 8(2), 207-215.
- (12) Li, Z. C., Song, Z. L., Yan, Z. F., Hao, Q., Song, A. L., Liu, L. N., Yang, X. M., **Xia, S. P.**, & Liang, Y. C. Silicon enhancement of estimated plant biomass carbon accumulation under abiotic and biotic stresses. A meta-analysis. *Agronomy for Sustainable Development*, 2018, 38(3), 26.
- (13) Liu, L. N., Wang, L. H., Song, W. H., Yang, L., Yin, L. M., **Xia, S. P.**, Wang, H. L., Strong, P. J., & Song, Z. L. Crude oil removal from aqueous solution using raw and carbonized *Xanthoceras sorbifolia* shells. *Environmental Science and Pollution Research*, 2018, 25(29), 29325-29334.
- (14) Li, Z. C., Song, Z. L., Yang, X. M., Song, A. L., Yu, C. X., Wang, T., **Xia, S. P.**, Liang, Y. C. Impacts of silicon on biogeochemical cycles of carbon and

nutrients in croplands. *Journal of Integrative Agriculture*, 2018, 17(10), 2182-2195.

- (15) 杨石磊, 宋照亮, 郝倩, 张晓东, 杨孝民, 夏少攀, & 杨伟华. 草地退化对植物硅分布和植硅体碳汇的影响: 以北方农牧交错带草地为例. *第四纪研究*, 2019, 39(1), 89-98.
- (16) 杨伟华, 郝倩, 夏少攀, 马楠, & 宋照亮. 湖泊-流域系统硅循环及其对碳和养分循环的影响. *生态学杂志*, 2018, 37(3), 624-633.
- (17) 刘梦娇, 夏少攀, 王峻, 马庆旭, 王忠强, & 吴良欢. 城市污泥农用对植物-土壤系统的影响. *应用生态学报*, 2017, 28(12), 4134-4142.