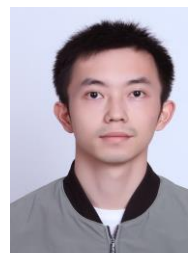


# Tao LUO

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## Education

2020.10-2023.10	<b>Université de Rennes-ENSCR</b> (Rennes, France) <a href="#">Ph.D. candidate</a> , Supervisors: Khalil Hanna and Jean-François Boily	Environmental Chemistry
2017.09-2020.06	<b>Wuhan University</b> (Wuhan, China) <a href="#">M.Sc.</a> , Supervisor: Feng Wu	Environmental Sciences
2012.09-2016.06	<b>Henan University of Urban Construction</b> (Pingdingshan, China) <a href="#">B.Sc.</a>	Environmental Sciences

## Research experience

### [PhD in Chemistry](#)

[France](#)

**Ecole nationale supérieure de chimie de Rennes**

**2020.10-2023.10**

- ✚ My PhD work mainly focused on the fate and transformation of antibiotics at the mineral-water interface under flow-through conditions and development of reactive transport models. 2 published papers.

### [Outgoing mobility](#)

[Sweden](#)

**Umeå University**

**2022.04-2022.12**

- ✚ My work in Umeå mainly focused on the molecular interactions of mineral-cations-antibiotics, and the photodegradation of PFOA on the water film. 3 papers are in preparation.

### [Master in environmental science](#)

[China](#)

**Wuhan University**

**2017.09-2020.06**

- ✚ Outstanding Master's graduates, National Scholarship, First Prize Scholarship.
- ✚ My M.Sc work focused on the oxidative removal of inorganic As(III) based on advanced oxidation process. 5 published papers.

## Academic activities

- ✚ Reviewer of "Geochimica et Cosmochimica Acta".
- ✚ Giving oral presentations in international workshop/conference.
  - Tao Luo. Nascent Cu(OH)<sub>2</sub> particles activate sulfite for of organic contaminants oxidation. 10<sup>th</sup> Environmental Chemistry Congress, China, August 15-19, 2019.
  - Tao Luo. Metal-free electro-activated sulfite process for As(III) oxidation in water using graphite electrodes. AMARE, France, April 22-28, 2019.

## Skills

**Computing:** PHREEQC, HYDRUS. Matlab: Chemometrics (MCR, SVD, PCA).

Microsoft Office, Origin, Chemdraw.

**Laboratory:** Analytical instruments: Chromatography (GC, HPLC, IC, HPLC-MS), TOC analyzer, Atomic Absorption

Spectroscopy, Inductively Coupled Plasma (ICP-OES; ICP-MS), Atomic Fluorescence Spectrometry, Spectrofluorometer, Zeta potential analyzer. Solid characterization: BET, FTIR, XPS, Raman, TEM, XRD, SEM. Experimentation: material synthesis, batch and dynamic column experiments, advanced oxidation processes.

## Publications

- [1] **Tao Luo**, Rasesh Pokharel, Tao Chen, Jean-François Boily, Khalil Hanna. Fate and transport of pharmaceuticals in iron and manganese binary oxide coated sand columns. *Environmental Science & Technology* 2023, 57, 214-221.
- [2] **Tao Luo**, Jing Xu, Wei Cheng, Lian Zhou, Remi Marsac, Feng Wu, Jean-François Boily, Khalil Hanna. Interactions of anti-inflammatory and antibiotic drugs at mineral surfaces can control environmental fate and transport. *Environmental Science & Technology*, 2022, 56, 2378-2385.
- [3] Jing Xu, Yi Wu, Mengling Ma, **Tao Luo**, Jun Xia, Xiang Zhang. A novel transformation pathway of p-arsanilic acid in water by colloid ferric hydroxide under UVA light. *Environmental Science and Pollution Research*, 2022, 29, 5043–5051.
- [4] **Tao Luo**, Jing Xu, Jinjun Li, Feng Wu, Danna Zhou. Strengthening arsenite oxidation in water using metal-free ultrasonic activation of sulfite. *Chemosphere*, 2021, 281, 130860.
- [5] **Tao Luo**, Hao Wang, Long Chen, Jinjun Li, Feng Wu, Danna Zhou. Visible light-driven oxidation of arsenite, sulfite and thiazine dyes: A new strategy for using waste to treat waste. *Journal of Cleaner Production*, 2021, 280, 124374.
- [6] Daqing Jia, Qinzhi Li, **Tao Luo**, Olivier Monfort, Gilles Mailhot, Marcello Brigante, Khalil Hanna. Impacts of environmental levels of hydrogen peroxide and oxanions on the redox activity of MnO<sub>2</sub> particles. *Environmental Science: Processes & Impacts*, 2021, 23(9), 1351-1361.
- [7] **Tao Luo**, Ying Peng, Long Chen, Jinjun Li, Feng Wu, Danna Zhou. Metal-free electro-activated sulfite process for As(III) oxidation in water using graphite electrodes. *Environmental Science & Technology*, 2020, 54, 10261-10269.
- [8] **Tao Luo**, Yanan Yuan, Danna Zhou, Liting Luo, Jinjun Li, Feng Wu. The catalytic role of nascent Cu(OH)<sub>2</sub> particles in the sulfite-induced oxidation of organic contaminants. *Chemical Engineering Journal*, 2019, 363, 329-336.
- [9] **Tao Luo**, Zhenhua Wang, Yi Wang, Zizheng Liu, Ivan P. Pozdnyakov. Different role of bisulfite/sulfite in UVC-S(IV)-O<sub>2</sub> system for arsenite oxidation in water. *Molecules*, 2019, 24 (12), 2307.
- [10] Yanan Yuan, **Tao Luo**, Jing Xu, Jinjun Li, Feng Wu, Marcello Brigante, Gilles Mailhot. Enhanced oxidation of aniline using Fe(III)-S(IV) system: Role of different oxysulfur radicals. *Chemical Engineering Journal*, 2019, 362, 183-189.
- [11] Long Chen, **Tao Luo**, Shaojie Yang, Jing Xu, Zizheng Liu, Feng Wu. Efficient metoprolol degradation by heterogeneous copper ferrite/sulfite reaction. *Environmental Chemistry Letters*, 2018, 16, 599-603.
- [12] Jing Xu, Heng Zhang, **Tao Luo**, Zizheng Liu, Jun Xia, Xiang Zhang. Phototransformation of p-arsanilic acid in aqueous media containing nitrogen species. *Chemosphere*, 2018, 212, 777-783.

### In preparation:

- [13] **Tao Luo**, Jean-François Boily, Khalil Hanna. Mobility and transport of pharmaceuticals in real soils.
- [14] **Tao Luo**, N. Tan Luong, Tao Chen, Khalil Hanna, Jean-François Boily. Cu(II) ions promote quinolones adsorption and oxidation on goethite.
- [15] **Tao Luo**, N. Tan Luong, Tao Chen, Khalil Hanna, Jean-François Boily. The selective role of Co(II)/Zn(II) on promoting quinolones adsorption: Molecular scale study.
- [16] **Tao Luo**, N. Tan Luong, Tao Chen, Khalil Hanna, Jean-François Boily. Wetting-drying cycle affects the photodegradation of PFOA on TiO<sub>2</sub> surfaces.