

# ZEKUN LIU

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University of California, Riverside, 900 University Avenue, CA 92507

## **EDUCATION**

- Ph.D., Chemical and Environmental Engineering (GPA: 3.88/4.0) **2018.09–Present**  
**University of California, Riverside, USA**  
Research focus: Complete defluorination of PFAS for wastewater treatment
- M.S. Municipal and Environmental Engineering (GPA: 3.53/4.0) **2015.09–2018.01**  
**Harbin Institute of Technology, Shenzhen, China**  
Research focus: Heavy metal, chelate, wastewater treatment
- B.S. Water Supply and Sewerage Engineering (GPA: 3.83/4.0) **2011.09–2015.07**  
**Xi'an University of Architecture and Technology, Xi'an, China**

## **AWARDS**

- Best Poster Presentation Award in Student E-Poster Competition. CAPEES **07/2021**
- ACS C. Ellen Gonter Graduate Student Award, American Chemical Society **04/2021**
- Third Place in Geosyntec Student Paper Competition, Geosyntec Consultants **04/2020**
- ACS ENVR Certificate of Merit, American Chemical Society **08/2019**
- Graduate Student Travel Award, University of California, Riverside **07/2019**
- Dean's Distinguished Fellowship Award, University of California, Riverside **02/2018**
- Academic Excellence Scholarship, Harbin Institute of Technology **07/2017**
- Merit Graduate Student of Heilongjiang Province, Heilongjiang Department of Education **03/2017**

## **JOURNAL PUBLICATIONS**

9. **Liu, Z.**; Chen, Z.; Gao, J.; Yu, Y.; Men, Y.; Gu, C.; Liu, J., Accelerated degradation of perfluorosulfonates and perfluorocarboxylates by UV/sulfite + iodide: Reaction mechanisms and system efficiencies. *Environ. Sci. Technol.* **2022**, 56, 3699-3709.
8. Gao, J.; **Liu, Z.**; Bentel, M. J.; Yu, Y.; Men, Y.; Liu, J., Defluorination of omega-hydroperfluorocarboxylates ( $\omega$ -HPFCAs): Distinct reactivities from perfluoro and fluorotelomeric carboxylates. *Environ. Sci. Technol.* **2021**, 55, 14146-14155.
7. **Liu, Z.**; Bentel, M. J.; Yu, Y.; Ren, C.; Gao, J.; Pulikkal, V. F.; Sun, M.; Men, Y.; Liu, J., Near-quantitative defluorination of perfluorinated and fluorotelomer carboxylates and sulfonates with integrated oxidation and reduction. *Environ. Sci. Technol.* **2021**, 55, 7052-7062.
6. Che, S.; Jin, B.; **Liu, Z.**; Yu, Y.; Liu, J.; Men, Y., Structure-specific aerobic defluorination of short-chain fluorinated carboxylic acids by activated sludge communities. *Environ. Sci. Technol. Lett.* **2021**, 8, 668-674.

5. Cheng, Z.; Chen, Q.; **Liu, Z.**; Liu, J.; Liu, Y.; Liu, S.; Gao, X.; Tan, Y.; Shen, Z., Interpretation of reductive PFAS defluorination with quantum chemical parameters. *Environ. Sci. Technol. Lett.* **2021**, 8, 645-650.
4. **Liu, Z.**; Bentel, M. J.; Yu, Y.; Gao, J.; Men, Y.; Liu, J., Enhanced degradation of perfluorocarboxylic acids (PFCAs) by UV/sulfite treatment: Reaction mechanisms and system efficiencies at pH 12. *Environ. Sci. Technol. Lett.* **2020**, 7, 351-357.
3. Dasgupta, S.; Reddam, A.; **Liu, Z.**; Liu, J.; Volz, D. C., High-content screening in zebrafish identifies perfluorooctanesulfonamide as a potent developmental toxicant. *Environ. Pollut.* **2020**, 256, 113550.
2. Zhao, Z.; **Liu, Z.**; Wang, H.; Dong, W.; Wang, W., Sequential application of Fenton and ozone-based oxidation process for the abatement of Ni-EDTA containing nickel plating effluents. *Chemosphere.* **2018**, 202, 238-245.
1. Zhao, Z.; Dong, W.; Wang, H.; Chen, G.; Wang, W.; **Liu, Z.**; Gao, Y.; Zhou, B., Advanced oxidation removal of hypophosphite by O<sub>3</sub>/H<sub>2</sub>O<sub>2</sub> combined with sequential Fe(II) catalytic process. *Chemosphere.* **2017**, 180, 48-56.

## **CONFERENCE PRESENTATIONS**

4. **Liu, Z.**; Chen, Z.; Gao, J.; Yu, Y.; Men, Y.; Gu, C.; Liu, J., Accelerated degradation of perfluorosulfonates and perfluorocarboxylates by UV/sulfite + iodide: Reaction mechanisms and system efficiencies. American Chemical Society National Meeting, Spring 2022, San Diego, CA.
3. **Liu, Z.**; Bentel, M. J.; Yu, Y.; Gao, J.; Men, Y.; Liu, J., Near-quantitative defluorination of perfluorinated and fluorotelomer carboxylates and sulfonates with integrated oxidation and reduction. American Chemical Society National Meeting, Fall 2021, Atlanta, GA. (Virtual presentation, **C. Ellen Gonter Graduate Student Award Winner**)
2. **Liu, Z.**; Bentel, M. J.; Yu, Y.; Gao, J.; Men, Y.; Liu, J., Near-Complete defluorination of perfluorinated and fluorotelomeric carboxylic acids with integrated oxidation and reduction processes. Geosyntec Consultants. 10/01/2020, Riverside, CA.
1. **Liu, Z.**; Bentel, M. J.; Yu, Y.; Gao, J.; Men, Y.; Liu, J., Enhanced defluorination of per- and polyfluoroalkyl substances (PFASs) with integrated oxidation and reduction process. American Chemical Society National Meeting, Fall 2019, San Diego, CA. (oral, **ACS ENVR Merit Award Winner**)

## **TEACHING EXPERIENCE**

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| UCR graduate level class <u>CEE 243 Advanced Water Treatment Technology</u><br>Class teaching on <i>PFAS degradation</i>   | <b>Winter 2022</b> |
| UCR graduate level class <u>CEE 243 Advanced Water Treatment Technology</u><br>Teaching assistant with responsibilities of office hour and homework grading          | <b>Winter 2020</b> |
| UCR graduate level class <u>CEE 226 Biological Treatment Processes</u><br>Class teaching on <i>Anaerobic Digestion, Disinfection</i>                                 | <b>Spring 2019</b> |
| UCR undergraduate level class <u>ENVE 171 Fundamentals of Environmental Engineering</u><br>Reviewing student course project proposals on PFAS treatment technologies | <b>Fall 2018</b>   |