

## POST-DOCTORAL EXPERIENCES

- Nov. 2019 -up to date Colorado State University, Department of Civil and Environmental Engineering, USA  
**Post-Doctoral Research** in Source Tracking and Environmental Fate of Per and Polyfluoroalkyl Substances (PFAS) from Groundwater (**SERDP**: Department of Defense).
- May.2019- Aug 2019 R&D of Agricultural solution of BASF Chemical company  
**Visiting scholar** at BASF Chemical Company, Germany  
Identified the secondary metabolites in tissues of a variety of crops species after exposure to different organic pesticides

## EDUCATION

- Oct. 2019 Texas A&M University, College Station, TX, USA  
**Doctor of Philosophy in Biological and Agricultural Engineering**  
Dissertation Title: [Environmental fate of metallic oxide nanoparticles \(ZnO & CeO<sub>2</sub>\) and heavy metal\(loid\)s in agricultural soil.](#)
- Dec.2015 Texas Tech University, Lubbock, TX, USA  
**Master's Degree in Civil and Environmental Engineering**  
Thesis: Environmental fate of UV filters and their interaction with biotoxins.
- Apr. 2013 University of Stuttgart, Stuttgart, Germany  
**Master's Degree in Environmental Process Engineering**  
Thesis: Solute transfer mechanisms of organic contaminants in Polar Organic Chemical Integrative Sampler (POCIS).
- Sep. 2009 **Bachelor of Science in Environmental Science and Engineering**, University of Birjand  
Thesis: Environmental fate of heavy metals in gray mangrove (*Avicennia marina*) ecosystem

## PUBLICATIONS \*corresponding author (full list in my GGLE scholar)

	<b>Impact Factor</b>
1. 2021, <b>H Sharifan</b> , M Bagheri, D Wang, J Burken, C Higgins, Y Liang, J Liu, C Schefer, J Blotevogel., fate and transport of per- and polyfluoroalkyl substances (PFASs) in the vadose zone, Hazardous Materials (in press)	9
2. 2020, <b>H Sharifan*</b> , Mechanistic Insight on Transfer Rate of the Polar Organic Compounds through the Polyethersulfone Membrane, Environmental Monitoring and Assessment, . <a href="#">10.1007/s10661-020-08309-y</a>	2
3. 2020, <b>H Sharifan*</b> , Alarming the Impacts of the Organic and Inorganic UV blockers on Endangered Coral's Species, A Scientific Concern for Coral Protection, Sustainable Futures, . <a href="#">10.1016/j.sftr.2020.100017</a>	
4. 2020, <b>H Sharifan</b> , X. Ma, J. Moore, . <a href="#">Zinc oxide (ZnO) nanoparticles elevated iron and copper contents</a> and mitigated the bioavailability of lead and cadmium in different leafy greens, . <b>Ecotoxicology and Environmental Safety</b> ,. <a href="#">10.1016/j.ecoenv.2020.110177</a>	4.7
5. 2020, X Ma, <b>H Sharifan</b> , F Dou, W Sun., Simultaneous Reduction of Arsenic (As) and Cadmium (Cd) <a href="#">Accumulation in Rice (Oryza sativa L.) by Zinc Oxide Nanoparticles</a> , <b>Chemical Engineering</b> ,. <a href="#">10.1016/j.cej.2019.123802</a>	10.7
6. 2019, <b>H Sharifan</b> , X Ma, j Moore, M Ruzlan, C Evans., <a href="#">Zinc oxide nanoparticles alleviated the bioavailability</a> of cadmium and lead and changed the uptake of iron in hydroponically grown lettuce ( <i>Lactuca sativa L. var. Longifolia</i> ), <b>ACS Sustainable Chemistry &amp; Engineering</b> . <a href="#">10.1021/acssuschemeng.9b03531</a>	7
7. 2019, <b>H Sharifan</b> , X Wang, X Ma., Impact of <a href="#">nanoparticle surface charge and phosphate on the uptake</a> of coexisting cerium oxide nanoparticles and cadmium by soybean ( <i>Glycine max. (L.) Merr.</i> ), International Journal of Phytoremediation, . <a href="#">10.1080/15226514.2019.1658713</a>	2.5
8. 2019, L Rossi, L N Fedenia; <b>H Sharifan</b> , X Ma, L Lombardini. Effects of foliar application of zinc sulfate and <a href="#">zinc nanoparticles in coffee (Coffea arabica L.) plants</a> , <b>Plant Physiology and Biochemistry</b> ,. <a href="#">10.1016/J.PLAPHY.2018.12.005</a>	3.9

9. 2018, **H Sharifan**, X Wang, G Binglin, X Ma., Investigation on the Modification of Physicochemical Properties of **Cerium Oxide Nanoparticles through Adsorption of Cd and As(III)/As(V)**, **ACS Sustainable Chemistry & Engineering**,. [10.1021/acssuschemeng.8b03355](https://doi.org/10.1021/acssuschemeng.8b03355) 7
10. 2018, X.Wang, W.Sun, S. Zhang, **H. Sharifan**, X. Ma, Elucidating the Effects of **Cerium Oxide Nanoparticles and Zinc Oxide Nanoparticles on Arsenic Uptake and Speciation** in Rice (*Oryza sativa*) in a Hydroponic System, **ACS Environmental Science & Technology**,. [0.1021/acs.est.8b01664](https://doi.org/10.1021/acs.est.8b01664) 7.14
11. 2018, **L Rossi, H Sharifan**, W Zhang, S Arthur P, X Ma., Mutual effects and in-planta speciation of co-existing **cerium oxide nanoparticles and cadmium** in hydroponically grown soybean (*Glycine max (L.) Merr.*), **Environmental Science: Nano 2018**,. [10.1039/C7EN00931C](https://doi.org/10.1039/C7EN00931C) 7.68
12. 2017, **H Sharifan\***, Commentary on **Characteristics of cadmium uptake and membrane transport** in roots of intact wheat (*Triticum aestivum L.*) seedlings. **Environmental Pollution**,. [10.1016/j.envpol.2017.06.018](https://doi.org/10.1016/j.envpol.2017.06.018)
13. 2017, **H Sharifan\***, X Ma., Potential photochemical interaction of **UV Filter Molecules with the multi-chlorinated structure of Pymnesins in a Harmful Algal Bloom** event, Mini-Reviews in Organic Chemistry,. [10.2174/1570193X14666170518124658](https://doi.org/10.2174/1570193X14666170518124658) 1.4
14. 2017, **H Sharifan\***, A Morse, H Madsen., High Performance in Power Generation by Pressure-Retarded Osmosis (PRO) from Hyper-Salinity Gradient: Case Study of Hypersaline Lake of Urmia, Iran, **Desalination and Water Treatment**,. [10.5004/dwt.2017.20555](https://doi.org/10.5004/dwt.2017.20555) 1.3
15. 2016, **H Sharifan\***, A Morse, D Klein., **UV Filters, an Environmental Threat for the Gulf of Mexico**; Case Study of Texas Coastal Zones, *Oceaologia*,. [10.1016/j.oceano.2016.07.002](https://doi.org/10.1016/j.oceano.2016.07.002) 2.2
16. 2016, **H Sharifan\***, A Morse, D Klein., **UV Filters Interaction in the Chlorinated Swimming Pool**, a new challenge for urbanization, a need for community-scale investigations, **Environmental Research**,. [10.1016/j.envres.2016.04.002](https://doi.org/10.1016/j.envres.2016.04.002) 5.7

#### UNDER REVIEW

17. 2020, A Chahardoli, H Sharifan; F Qalekhani; N Karimi., **Titanium dioxide nanoparticle promoted protein synthesis and altered the photosynthetic efficiency in *Nigella arvensis***, a dose-dependent response, Plant Growth Regulation (under review)
18. 2021, **H Sharifan**, M Bagheri, j Moore., **Nanofortification of zinc oxide nanoparticles**, their impacts on shelf-life qualities and a Neural Networks bio-projection of microbial growth on tomato (*Solanum Lycopersicum*), Science of Total Environment (Ready to submit)
19. 2020, A Doria-Manzur, H Sharifan, L Tejada-Benitez., **Zinc oxide nanoparticles mitigated the high contamination of nickel in *Sorghum bicolor***, Environmental Pollution (under review)
20. 2020, D Sanaeia, M Massoudinejada, M Alipourb, M Sarmadic, H Abdolmalekid, **H Sharifan\***, **Decidedly efficient and durable oxygen reduction reaction catalyst synthesized from Sr/Fe/Co/Mn mixed-metal-organic: toward a sustainable application of fuel cell cathode**, Submission to Sustainable Energy & Fuels (under review)

#### GRANTS and FELLOWSHIPS

- 2019 **German Academic Exchange Service (DAAD), Scholarship Award** of RISE Professional (\$16k)  
Research Area: Characterizing and calibrating of LC-SPE-NMR for analyzing the biological samples of animal and plant metabolites at BASF Chemical Company, Ludwigshafen, Germany.
- 2019 **National Science Foundation (NSF)-PIRE (#1545837 P), Awarded the Extended Proposal (\$15k)** Research Area: Sustainable agriculture under risk of a contaminated coastal flood using the nanotechnology a collaboration between the Delft University (Netherlands) and Texas A & M University (USA) **Co-PI: Hamidreza Sharifan.**
- 2017 **Travel Grants: National Institute of Health (NIH), National Science Foundation (NSF) (\$4000)**  
To present at the: 14th International Phytotechnologies Conference, Montreal, Canada  
1st Pan American Congress of Nanotechnology, Guarujá, Brazil  
16th International Phytotechnologies Conference, Changsha, China
- 2017 **Rollins Family Fellowship and Harold J. "Bill" Haynes Fellowship, Texas A & M University(\$6000)**  
In recognition of excellent performance and dedication in research.
- 2016 **Oklahoma State University, Travel Grant**, funded by Buchanan Family Trust(\$500)  
To attend the student water conference at Oklahoma State University.

- 2016 **Small Research Grant for Graduate Students at Texas Tech University (\$500)**  
To provide the supplemental material for the project of UV filters interaction with the chlorinated water
- 2015 **Presidential Fellowship from Texas Tech University (\$60k)**  
To complete two years of graduate studies

## SELECTED PRESENTATIONS

- 2019, Sharifan., Moore, Ma, *Interaction of leafy vegetable romaine lettuce (*Lactuca sativa L. var. Longifolia*) with coexisting of ZnO nanoparticles and divalent heavy metals (Cd and Pb)*, American Chemical Society, San Diego, CA, [USA](#)
- 2019, Sharifan., Moore, Ma, *Effects of zinc oxide nanoparticles on the bioavailability of co-contaminant cadmium and lead and the iron content in spinach (*Spinacia oleracea*)*, 16th International Phytotechnologies Conference, [China](#).
- 2017, Sharifan., Ma, *mutual effects of cerium oxide nanoparticles and cadmium on their uptake and accumulation by soybeans in a hydroponic system*, 14th International Phytotechnologies Conference, [Canada](#).
- 2017, Sharifan., Mal, *Characterizing the molecular mechanisms for the uptake of cerium oxide nanoparticles by soybean (*Glycine max. (L.) Merr.*)*, in Pan American Congress of Nanotechnology (PanNano-2017), [Brazil](#).
- 2016, Sharifan., Morse, *Solute Transfer behavior of Polar Organic Chemical Compounds through Polyethersulfone Membrane (PES) in Passive Sampling Device*, Annual Student Water Conference, Stillwater campus of Oklahoma State University. [USA](#)
- 2016, Sharifan., Morse, *Transfer Rate of Water Contaminants through a Polyethersulfone (PES) Membrane*, Texas Water Conference, Fort Worth, Texas, [USA](#)

## AWARDS

- 2019 **Appreciation Award for serving as Judge for Annual Departmental Capstone** Event for Undergraduate Students of the Department of Biological and Agricultural Engineering, Texas A & M University, College Station, Texas.
- 2018 **Peer Review Awards by Publon supported by Web of Science Group**  
Top 1% in the Field Environment and Ecology  
Reviewer for five peer-reviewed journals
- 2017 **Outstanding contribution in Reviewing for the Journal of Science of Total Environment**  
Reviewing 15 articles in the field of environmental science and engineering, ecology and biotechnology
- 2017 **Top Reviewer for the Water Environment Federation, Journal of Water Environment Research**  
Giving critical reviews for more than three years of volunteer service  
Indexed in Scopus

## INVITED TALKS

- Feb.2020, **Title: Application of nanotechnology in Food Safety**,  
Department of Civil and Environmental Engineering, Colorado State University, USA
- June.2019, **Title: Ph.D., A Decision for Future, Challenges, and Successes**,  
Department of Environment and Process Engineering, WASTE Program, Stuttgart, Germany
- July.2019, **Title: Interaction of Nanoparticles with Dietary Plants, A Food Safety Perspective**  
Rise Professional-DAAD Program (German Academic Exchange Service), Heidelberg, Germany

## TEACHING EXPERIENCE

- Aug. 2018- **Teaching Assistant for the Food Process Engineering- Agricultural Systems Management (AGSM) 315 at the Department of Biological and Agricultural Engineering, Texas A&M University, College Station, TX.**
- Dec.2019 **Major teaching modules:** Elementary mechanics, physical and thermal properties of food and processing materials, heat transfer, mass and energy balances, psychometrics (properties of air), insulation.
- List of Supervised Students**
- 2020 **Shikhadri Mahanta, MSc student** at the Department of Biological and Agricultural Engineering, Texas A&M University  
-Seeds germination, application of nanoparticle in soil, solute preparation
- 2019 **Fahad Asiri, PhD student** at the Zackary Department of Civil Engineering, Texas A&M University  
-Scientific writing, underlying mechanism in biodegradation, NOx cycle, ICP MS analysis, Digestion procedure
- 2019 **Xiaoxuan Wang, PhD student** at the Zackary Department of Civil Engineering, Texas A&M University  
-Scientific writing, underlying mechanism in phytoremediation, ICP MS analysis, Digestion procedure
- 2019 **Mohammad Ruzlan Habib, PhD student** at the Department of Biological and Agricultural Engineering, Texas A&M University

- Plant tissue digestion and ICP techniques
- 2018 **Alonso Andres Doria Manzur, Intern undergraduate student** at Texas A&M University from Research group of environmental chemistry and toxicology, Universidad de Cartagena, Colombia  
-Adsorption techniques, phytoremediation procedure, DLS and ICP analysis, data interpretation
- 2018 **Francis Toscano, Intern undergraduate student** at Texas A&M University from Research group of environmental chemistry and toxicology, Universidad de Cartagena, Colombia  
-Adsorption techniques, phytoremediation procedure, DLS and ICP analysis, data interpretation
- Sep. 2018-  
Dec.2018 **Lab Instructor and Mentor for Undergraduate International Exchange students, Texas A & M University, College Station, TX.**  
Taught the adsorption principles and applicable isotherms  
Explained and trained the analytical approach for nanoparticles hydrodynamic size distribution  
Elucidate the mechanism of protein synthesis inhibitors to students  
Assigned tasks and trained the acid digestions of organic tissue and sample preparation for ICP-MS analysis
- Sep. 2016-  
Oct.2016 **Certificate in Teaching Techniques (ASCE). Texas Tech University, Lubbock, Texas. Understanding teaching techniques through critical reflection and application. Three Days Workshops attended:**  
(i) Introduction to Teaching; (ii) Learning Styles; (iii) Classroom Assessment Techniques; (iv) Effective Teaching with Technology; (v) Classroom Management; (vi) Writing Learning Outcomes; (vii) Establishing Credibility and Authority in the Classroom; (viii) Evaluation and Grading.
- Sep. 2014-  
Jun.2015 **Teaching Assistant, Old Dominion University**  
Evaluated and graded mid-term Exams  
Evaluated undergraduate homework and communicated the challenging issues

## WORK AND RESEARCH EXPERIENCE

- Jan. 2017-  
Dec2019 **Research Assistant at Nanotechnology Lab, Department of Biological and Agricultural Engineering, Texas A&M University, College Station, TX.**  
Characterized different metallic oxide nanoparticle by DLS, TEM, and XPS  
Investigated the adsorption of the organic/ inorganic pollutant by DLS, TEM & ICP-MS  
Analyzed the elemental composition of the growth media and living tissue by ICP-MS  
Cultivated the bacterial communities and characterized their responses
- Mar. 2012-  
Mar.2013 **Research Assistant-Intern at Two Joint Marine Research Institutes:**
  - Alfred Wegener Institute for Polar and Marine Researches, Germany (Six months)
  - Royal Netherlands Institute for Sea Research, Netherlands (Six months)
- Nov. 2010  
Jan.2014 **Research Assistant at Stuttgart University**
  - ISWA: Institute for Sanitary Engineering, Water Quality and Solid Waste Management
  - IFK: Institute of Combustion and Power Plant Technology

Extracted different biotoxins from sampled algae, prepared samples for GC-MS and HPLC analysis  
Analyzed data and identified different types of biotoxins based on molecular spectrum  
Calibrated the GC-MS and quantified multiple pharmaceuticals and pesticides from water samples  
Characterized performance of the PES membrane in POCIS ( passive sampling)

## PROFESSIONAL DEVELOPMENT

[Executive Committee of Academy for Future Faculties at Texas A&M University](#)

**Certified Teaching Skills** from the Center for the Integration of Research, Teaching, and Learning (NSF)

**Certificate in Advanced Energy System Engineering**, Old Dominion University, Virginia

- 15 credit hours of graduate-level courses in Energy Engineering and Science

[Editor for the Journal of Data in Brief \(Elsevier\)](#)

[Editor for the Journal of Material Sciences and Applications](#)

[The scientific committee of the International Conference on Sustainable Energy-Water-Environment Nexus In Desert Climate](#)

Reviewer for several peer-reviewed journals (See my Publon profile)