

EDUCATION

- Jan. 2020 -up to date Colorado State University, Department of Civil and Environmental Engineering, CO, USA
Post-Doctoral Research in Source Tracking and Plant Uptake of Polyfluoroalkyl Substances (PFAS) from Agricultural Soils, **SERDP** project funded by the Department of Defense.
- Nov.2019-Jan 2020 Texas A&M University, College Station, TX, USA
Post-Doctoral Research on the interaction of nanoparticles with post-harvested crops. Department of Biological and Agricultural Engineering under the supervisory of Dr. J. Moore
R&D of Agricultural solution of BASF Chemical company(Department of the Crop Protection)
- May.2019-Aug 2019 **Visiting scholar through the DAAD Scholarship**
- Oct. 2019 Texas A&M University, College Station, TX, USA
Doctor of Philosophy in Biological and Agricultural Engineering (Environmental Engineering),
Dissertation Title: [Environmental fate and interaction of metallic oxide nanoparticles \(ZnO & CeO₂\) with plants](#)
- Dec. 2016 Texas Tech University, Lubbock, TX, USA
Master's Degree in Civil and Environmental Engineering
Thesis Title: Environmental fate of UV filters and their interaction with biotoxins and organic matters.
- Apr. 2013 University of Stuttgart, Stuttgart, Germany
Master's Degree in Environmental and Process Engineering
Thesis Title: Solute transfer mechanisms of organic contaminants in Polar Organic Chemical Integrative Sampler (POCIS) in freshwater setup.
- Sep. 2007 **Bachelor of Science in Environmental Science and Engineering,** University of Birjand, Iran
Thesis Title: Bioaccumulation, and Distribution of Heavy Metals in Gray Mangrove (*Avicennia marina*): Case Study of the Subtropical Areas

CURRENT POSITIONS

Postdoctoral Researcher in the Department of Civil and Environmental Engineering, CSU, CO, USA
[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](#)

PUBLICATIONS *corresponding author

- 2020, **H Sharifan***, Mechanistic Insight on Transfer Rate of the Polar Organic Compounds through the Polyethersulfone Membrane, **Environmental Monitoring and Assessment**, . [10.1007/s10661-020-08309-y](#)
- 2020, **H Sharifan***, Alarming the Impacts of the Organic and Inorganic UV blockers on Endangered Coral's Species, A Scientific Concern for Coral Protection, **Sustainable Futures**,. [10.1016/j.sftr.2020.100017](#)
- 2020, **H Sharifan**, X. Ma, J. Moore, Zinc oxide (ZnO) nanoparticles elevated iron and copper contents and mitigated the bioavailability of lead and cadmium in different leafy greens, **Ecotoxicology and Environmental Safety**,. [10.1016/j.ecoenv.2020.110177](#)
- 2020, X Ma, **H Sharifan**, F Dou, W Sun., Simultaneous Reduction of Arsenic (As) and Cadmium (Cd) Accumulation in Rice (*Oryza sativa L.*) by Zinc Oxide Nanoparticles, **Chemical Engineering**,. [10.1016/j.cej.2019.123802](#)
- 2019, **H Sharifan**, X Ma, j Moore, M Ruzlan, C Evans, Zinc oxide nanoparticles alleviated the bioavailability of cadmium and lead and changed the uptake of iron in hydroponically grown lettuce (*Lactuca sativa L. var. Longifolia*),. **ACS Sustainable Chemistry & Engineering**. [10.1021/acssuschemeng.9b03531](#)

6. 2019, **H Sharifan**, X Wang, X Ma., Impact of nanoparticle surface charge and phosphate on the uptake of coexisting cerium oxide nanoparticles and cadmium by soybean (*Glycine max. (L.) Merr.*), *International Journal of Phytoremediation*,. [10.1080/15226514.2019.1658713](https://doi.org/10.1080/15226514.2019.1658713)
7. 2019, L Rossi, L N Fedenia; **H Sharifan**, X Ma, L Lombardini. Effects of foliar application of zinc sulfate and zinc nanoparticles in coffee (*Coffea arabica L.*) plants, **Plant Physiology and Biochemistry**,. [10.1016/J.PLAPHY.2018.12.005](https://doi.org/10.1016/J.PLAPHY.2018.12.005)
8. 2018, **H Sharifan**, X Wang, G Binglin, X Ma., Investigation on the Modification of Physicochemical Properties of Cerium Oxide Nanoparticles by root exudates through Adsorption of Cd and As(III)/As(V), **ACS Sustainable Chemistry & Engineering**,. [10.1021/acssuschemeng.8b03355](https://doi.org/10.1021/acssuschemeng.8b03355)
9. 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)
10. 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)
11. 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)
12. 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)
13. 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)
14. 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)
15. 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)
16. 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)
17. 2020, **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* (under review)
18. 2020, D Sanaei, M Massoudinejad*, **H Sharifan***, M Alipour, M Sarmadi, H Abdolmaleki., Higher Activated Surface Area of the Bi-Functional Metal (Sr/Fe/Co/Mn)-organic Perovskite Enhanced the Energy Recovery and Organic Waste Removal in Microbial Fuel Cells, **ACS Environmental Science & Technology** (under review)
19. 2020, A Zarinkoob, S Bahbadi*, A Rahdar*, P Hasanein, **H Sharifan***, Ce-Mn ferrite nanocomposite promoted the photosynthesis, fortification of total yield and elongation of wheat (*Triticum aestivum L.*), **ACS Sustainable Chemistry & Engineering** (under review)
20. 2021, **H Sharifan***, X Ma., Foliar application of ZnO-Nanoparticles alleviated the bioavailability of As and enriched the micronutrient uptake in rice (*Oryza sativa L.*), (Ready to submit).

GRANTS and FELLOWSHIPS

- | | |
|------|---|
| 2019 | National Institute of Health (NIH), Travel Grant (\$1000)
To attend the 16th International Phytotechnologies Conference, Changsha, China
Hosted by the American Phytoscholar Grant Program. |
| 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) PI: Hamidreza Sharifan. |
| 2017 | National Institute of Health (NIH), Travel Grant (\$2000)
To attend the 14th International Phytotechnologies Conference, Montreal, Canada
Hosted by the American Phytoscholar Grant Program. |
| 2017 | National Science Foundation (NSF), Travel Grant (\$1000) |

- To attend the 1st Pan American Congress of Nanotechnology, Guaruja, Brazil
Hosted by the Sustainable Nanotechnology Organization.
- 2017 **Rollins Family Fellowship, Texas A & M University(\$3000)**
In recognition of excellent performance and dedication in research.
- 2017 **Harold J. "Bill" Haynes Fellowship, Texas A&M University (\$3000)**
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, PI: Hamidreza Sharifan.
- 2015 **Presidential Fellowship from Texas Tech University (\$60k)**
To perform 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, Aug. 25-27, 2019, 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 (Spinaciae oleracea)*, in 16th International Phytotechnologies Conference, Sep. 23-29, 2019, China.
- 2017, Sharifan., Ma, *mutual effects of cerium oxide nanoparticles and cadmium on their uptake and accumulation by soybeans in a hydroponic system*, in 14th International Phytotechnologies Conference, Sep. 25-29, 2017, 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), Nov. 27-29, 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, Mar. 24-25, Stillwater campus of Oklahoma State University. USA
- 2016, Sharifan., Morse, *Transfer Rate of Water Contaminants through a Polyethersulfone (PES) Membrane*, Texas Water Conference, Apr. 19-22 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
- 2017 **Outstanding contribution in Reviewing for the Journal of Science of Total Environment**
Reviewing 12 articles in the field of environmental science and engineering, ecology and biotechnology

INVITED TALKS

- Feb.2020, **Title: Application of nanotechnology in Food Safety**,
Department of Civil and Environmental Engineering, Colorado State University
- 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

CERTIFICATIONS

- Jul. 2015 **Certificate in Advanced Energy System Engineering**, Old Dominion University, Virginia
- 15 credit hours of graduate-level courses in Energy Engineering and Science

Feb. 2019 **Social and Behavioral Research Investigators and Key Personnel**, Collaborative Institutional Training Initiative (CITI Program)

- Research prerequisite to work with human data for the project of engineering education of minorities under supervisory of Dr. Janie Moore

Oct. 2019 **Certified Teaching Skills from the Academy for Future Faculty (AFF) is a CIRTL at the Texas A&M University program. The Center for the Integration of Research, Teaching, and Learning (CIRTL) is a National Science Foundation (NSF) Center for Learning and Teaching in higher education**

- Learning Outcomes & the Course Development Cycle
- Philosophy of Teaching Statement
- Syllabus Design
- Curriculum Vitae

VSITING SCHOLAR

June-Aug 2019 **Researcher in the Department of the Crop Protection, Global Metabolism and Structure, Research and Development of Agricultural solution of BASF Chemical company**

- Identified the secondary metabolites in tissues of a variety of crops species after exposure to different organic pesticides
- Classified the organic metabolites into polar, semi-polar and non-polar compounds

TEACHING EXPERIENCE

- Aug. 2018-
Dec.2019 **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.**
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-
Dec.2019 **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
Monitored and classified hazardous material in the Nano-Lab according to the policy of EHS center.
Prepared several technical reports, documents, and protocols
Managed the Lab facilities and processed the related business works of supplies
- Jul.2015-
Dec.2016 **Research Assistant at the Department of Civil and Environmental Engineering, Texas Tech University, Lubbock, TX**
Prepared extensive literature review on organic UV filters and published two articles
Analyzed and modeled the data of potential application of pressure retarded osmosis (PRO) using hypersaline water
- Jan. 2015-
Aug. 2015 **Environmental Engineer-Intern in the Department of Public Utilities, Urban Water Center of the municipality of Virginia Beach city, VA**
Researched and interpreted the construction drawing and specifications of the water facilities
Updated the field records of technicians into the GIS-based distribution system
Mapped the urban sewer systems and water utilities of the city by Arc Map
- Nov. 2010-
Feb. 2012 **Research Assistant at the Institute for Sanitary Engineering, Water Quality and Solid Waste Management, Stuttgart, Germany**
Installed and maintained stationary ambient gas analyzers (NO_x, CO, O₃, PM)
Apr. 2013-
Dec. 2013 Measured the ambient air quality at different sites by mobile instruments
Controlled the quality of wastewater treatment process (BOD, COD, NO_x, PO₄)
Investigated the feasibility of organic UV filter biodegradation (Benzophenone, Octocrylene)
- 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)
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) under different conditions

LEADERSHIP EXPERIENCE

- Sep. 2017 **Grad Camp Consultant for new graduate students at Texas A&M University**
Organized group meetings with a diverse group of students
Designed ice-breaking games for students with different background
Provided valuable information and shared experience with new grad students
- Dec. 2015-
Dec.2016 **Founder and President of Student Chapter of the American Society of Engineering Education, Texas Tech University, Lubbock, Texas**
Organized weekly meetings
Presented the society at different events
Managed the time availability between officers
- Sep. 2013 **Selected as youth chair for the International conference of YOUNARES 2013, driven by the young spirit in marine science and technology, Germany**
- Apr. 2012 **Student reporter for an international conference of TROPENTAG-Resilience of Agricultural Systems against Crises, Universities of Göttingen and Kassel, Germany**
Interviewed keynote speakers

Recorded videos, edited and uploaded to the YouTube channel of the conference

LAB SKILLS

GC-MS, LC-MS, HPLC, SPE, ICP-MS, FTIR, DLS Analyzing, TEM imaging, LC-SPE, EZ-PREP

INVITED REVIEWER[^] and EDITORIAL BOARD*

- *Journal of Materials Sciences and Applications (JMSA)
- *Journal of Data in Brief (DIB) Elsevier
- [^]Journal of Total Science of Environment
- [^]Journal of Environmental Science and Pollution Research
- [^]Journal of Water Environment Research
- [^]Journal of Environmental Chemistry Letters
- [^]Journal of Water Research
- [^]International Journal of Phytoremediation
- [^] ACS Journal of Sustainable Chemistry