Curriculum Vita
October 2022

Instructor: Dr. Naima Khan, Assistant Professor
Academic Department: Biological and Environmental Science

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EDUCATION

Doctor of Philosophy
New Mexico State University, 2018

Master of Science
New Mexico State University 2015
Jahangirnagar University, Bangladesh 2008

Bachelor of Science
Jahangirnagar University, Bangladesh 2005

TEACHING EXPERIENCE

- Introduction to Natural Disasters (ENVS 103): Fall 2022 and Spring 2023 (will continue)
- Environmental Toxicology (ENVS 312): Fall 2022
- Water Quality (ENVS 308): Spring 2023
- Environmental Remediation (ENVS 406): Spring 2023 (
- NMSU Environmental Science (E S 110): Fall and Spring 2015, 2017.
- NMSU Geohydrology (ES/WSAM/CE/GEOL 452): Fall 2016
- NMSU Geology/Soil Chemistry (GEOL/SOIL CHEMISTRY 424) – Guest Lecturer: Fall 2020
- NMSU Research Plan and Research Technologies – Hydrogeology Laboratory (Learn by Doing)
- NMSU Land Use Environmental Impact and Contaminant Remediation (WSAM/ES 470)

- NMSU Arid Region Water Resources Issues Seminar (focusing on fate and transport of environmental contaminants based on behavior of surface water and groundwater interactions) (WSAM/ES 605)
- NM Water Issues Class for Agriculture Education (AXED 565), Guest Lecturer
- NMSU Introduction to Natural Resources (focused on aqueous chemistry) (FWCE 110G) - Guest Lecturer
- Guest Lecturer and Visiting Researcher - Short Courses in International Center for Climate Change and Development (ICCCAD), Bangladesh:
  - Interdisciplinary studies on Urban Climate Change, Urban Resilience and Livability, Climate Finance etc.
  - Human migration due to climate change effects (biodiversity loss, food and water scarcity, public health due to climatic diseases outbreak, poverty etc.)
  - Target, policies, dialogues, international environmental treaties on negotiations for addressing climate change effects etc.
  - Political framework analysis for Conference of the Parties (COPs) organized each year by United Nations Framework Convention on Climate Change (UNFCCC).

PUBLICATIONS

Report Publications

1. Pei Xu, Carroll, K.C., Naima Khan, M.L. Brusseau, Yanyan Zhang, Wenbin Jiang, Lei Hu, Xuesong Xu, Frank Ramos (2021) Characterization of Produced Water in the Permian Basin for Potential Beneficial Use. Phase-I Technical Report for Water Resources Research Institute (WRRI). [I contributed to this report as an author for methods and results discussion for organic chemicals characterization portion]
2. Carroll, K.C., M.L. Brusseau, T.B. Boving, and R. Ball (2018) Facilitated-Transport Enabled In-Situ Chemical Oxidation of 1,4-Dioxane-Contaminated Groundwater. Final Report SERDP Project Number: ER-2302. [I contributed to this report as an author for published paper in peer reviewed journal]
3. MD. Golam Rabbani, Marium Rashid, Naima A Khan “Challenging Climates: adapting to change”- Bangladesh baseline study (March 2008). Prepared by Bangladesh Centre for Advanced Studies and British Council.

Peer Reviewed Publications

1. Michael Hitzelberger; **Naima Khan;** Ruba A Mahammed; Mark L Brusseau; Kenneth C. Carroll, “PFOS Mass Flux Reduction/Mass Removal: Impacts of a Lower-Permeability Sand Lens within Otherwise Homogeneous Systems”, Environmental Science and Technology 56(19):2022 (13675–13685).
2. Yake Wang; **Naima Khan;** Kenneth C. Carroll; Mark L Brusseau, “Transport of PFOS in Aquifer Sediment: Characterizing Nonideal Sorption and the Influence of Soil Organic Carbon and Metal-oxides”, Science of The Total Environment 779(9):2021 (146444).

3. Huang, Dandan; **Naima Khan;** Wang, Guangcai; Kenneth Carroll; Mark L Brusseau, "The Co-Transport of PFAS and Cr (VI) in porous media", Chemosphere 286 (1-3): 131834.
4. **Naima Khan**; Kenneth C. Carroll, "Natural-Attenuation Methods for Contaminant Remediation-Reagent Delivery Assessment for In Situ Chemical Oxidation Using Aqueous Ozone". Chemosphere 247:125848 (2020).
5. Van Glubt, Sarah; Brusseau, Mark; Yan, Ni; Huang, Dandan; **Naima Khan;** Carroll, Kenneth, "Column versus batch methods for measuring PFOS and PFOA sorption to geomedia." Environmental Pollution 115917, 2020.
6. Bridges, L., R.A.M. Mohamed, **Naima Khan,** M.L. Brusseau, and K.C. Carroll, "Persulfate Activation and Degradation of 1,4-Dioxane in Water Using Manganese Amendment for In Situ Chemical Oxidation". Water 12(11):3061, 2020.
7. Mark L Brusseau, **Naima Khan**, Yake Wang, Ni Yan, Sarah Van Glubt, Kenneth C Carroll, "Nonideal Transport and Low-Concentration Elution Tailing of PFOS in Soil". Environmental Science and Technology 53(18):2019 (10654-10664).
8. **Naima Khan;** Michael D Johnson; F O Holguin; Barry Dungan; Kenneth C. Carroll, "Aqueous Ozone Treatment of 1,4-Dioxane and Co-Contaminants with and without a Stabilization Agent." Chemosphere 219:2019 (335-344).
9. **Naima Khan;** Michael D Johnson; Kenneth C. Carroll, "Spectroscopic Methods for Aqueous Cyclodextrin Inclusion Complex Binding Measurement for 1,4-Dioxane, Chlorinated Co-Contaminants, and Ozone." Journal of Contaminant Hydrology 210:2018 (31-41).
10. Adam Dettmer, Raymond Ball, Thomas B. Boving, **Naima Khan,** Tanner Schaub, Nilusha Sudasinghe, Carlos A. Fernandez, Kenneth C. Carroll, "Stabilization and prolonged reactivity of aqueous-phase ozone with cyclodextrin." Journal of Contaminant Hydrology 196:2017 (1-9).
11. **Naima Khan**, Mark Engle, Barry Dungan, Francisco Omar Holguin, Pei Xu, Kenneth C. Carroll, "Volatile-organic molecular characterization of shale-oil produced water from the Permian Basin." Chemosphere 148:126-136, March 2016.
12. Sania B Mahtab, **Naima Khan,** "Sustainable poverty eradication measures: the intertwined relationship of income poverty and water poverty", Annual General Conference for Canadian Society for Civil Engineering, Edmonton, Alberta, June 6-9, 2012 (Conference paper).
13. **Naima Khan,** Sania Binte Mahtab, Kenneth C. Carroll, "Analysis of geo-morphological structure at lower Bakkhali river, Cox's Bazar as a means to evolve at suitable option for sustainable water management" **(2020 - In prep).**
14. **Naima Khan,** Zhong Lirong, Szecsody E James, Vicky L Vicky, Kenneth C Carroll, "Evaluating Tracer Estimation of Sorption for Characterization of Solute Attenuation of Subsurface Contaminant Mixtures Relevant to the Hanford Site". **(2020 - In prep)**
15. **Naima Khan,** Mark L. Brusseau, F. Omar Holguin, Barry Dungan, Kenneth C. Carroll, "Instrumental comparison for analysis of Perfluorooctanoic acid and Perfluoro sulfonic acid" **(2020 - In prep).**
16. **Naima Khan,** Pei Xu, Kenneth C. Carroll, "Cyclodextrin Enhanced Degradation of PFOS by Ozone" **(2020 – In prep).**
17. Huang, Dandan; **Naima Khan;** Kenneth Carroll; Mark L Brusseau, "Fate and Transport behavior of PFAS compounds in Saturated versus Unsaturated

environment, and single (PFOS) versus multiple contaminant (PFOS, PFOA, PFTDA, PFBA etc) system",

18. Emily Creegan, Kulbhushan Grover, David DuBois, and **Naima Khan,** "Global Agricultural Climate Change Mitigation and Resiliency Curriculum Collaborations" (2020 – In prep).
19. Bilkis Ara Begum, **Naima A Khan**, Md. Khabir Uddin and Swapan Kumar Bishwas, "Characterization of Particulate Matter at Dhaka-Aricha road and Bank town areas in Savar, Dhaka and short-range transport of Particulate Matter from Dhaka-Aricha road towards Bank town area." Journal of the Bangladesh Chemical Society, 22(1): 18-34, 2010.
20. MD. Golam Rabbani, Mehrab Chowdhury and **Naima A. Khan**, "Impacts of industrial pollution on human health: Empirical Evidences from an industrial hotspot (Kaliakoir) in Bangladesh." Asian Journal of Water Environment and Pollution, 7 (1): 27-33, 2009.

RESEARCH GRANTS AND AWARDS

- Start-up Research Grant from Texas A&M University – Commerce ($50,5000)
- Monitor New Mexico Statewide "Drinking Water fund" for the following purposes (January 2021 to current):
  - ✓ For research on contaminant remediation: PFAS and Total coliform
  - ✓ For replacing lead lines in drinking water distribution facilities.
- **$24,000 research grant:** International Peace Scholar. Philanthropic Educational Organization (P.E.O) is the main organization for giving the International Peace Scholarship (IPS); PI: Naima Khan; (https://www.peointernational.org/pce-eligibility-requirements)- 2015-2017.
- **$36,000 research grant:** International Research Grant from International Foundation for Science (IFS-Sweden) (http://www.ifs.se).My research title was "Analysis of geo-morphological structure at lower Bakkhali river, Cox's Bazar as a means to evolve at suitable option for sustainable water management (SWM)" (2009-2010). PI: Naima Khan.
- **$1,000** grant for attending conference: Outstanding Graduate Student Paper Award both PhD and MS level - Plant and Environmental Science Dept. New Mexico State University (NMSU)- 2018 and 2016.
- $**1,200 Travel grants:** Associated Students of New Mexico State University (ASNMSU) and Graduate Student Council (GSO) - New Mexico State University- 2017 and 2015;
- **$500 Outstanding Student Travel grant:** American Geophysical Union (AGU) for attending AGU fall meeting (http://fallmeeting.agu.org/2016/students/fall-meeting-student-travel-grants/)-2016.
- **$1000 Robert Luxmoore Travel Grant:** For attending International Annual Meeting of Soil Science Society of America (SSSA) (https://www.soils.org/membership/divisions/soil-physics-and-hydrology/robert-luxmoore-travel-award)- 2016.

- **€70,000** Collaboration with Bjerknes Centre for Climate Research, Bergen University, Norway. PI: Dr. Atiq Rahman, Co-PI: Naima Khan. For capacity building on Weather Research Forecasting Model (WRF) (2010-12).