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EDUCATION

- Ph.D.** **Virginia Tech**, Blacksburg, USA
 Civil Engineering, 2019
- M.S.** **Washington State University**, Pullman, USA
 Environmental Engineering, 2014
- B.S.** **Bangladesh University of Engineering and Technology**, Dhaka, Bangladesh
 Civil Engineering, 2012

PROFESSIONAL EXPERIENCE

- 08/2020 – Present **Assistant Professor**, Department of Civil, Construction and Environmental Engineering, North Dakota State University
Affiliated Assistant Professor: Department of Environmental and Conservation Sciences, NDSU; North Dakota Water Resources Research Institute.
- 05/2019 – 07/2020 **Postdoctoral Research Associate**, Department of Civil and Environmental Engineering, University of Southern California
- 08/ 2015 – 05/2019 **Graduate Research Assistant**, Department of Civil and Environmental Engineering, Virginia Tech
- 08/2018 – 12/2018 **Instructor of Record**, Department of Civil and Environmental Engineering, Virginia Tech
- 08/2013 – 07/2015 **Graduate Teaching Assistant**, Department of Civil and Environmental Engineering, Washington State University
- 05/2012 – 07/2013 **Lecturer**, Department of Civil Engineering, University of Information Technology and Sciences, Ahsanullah University of Science and Technology, Bangladesh

RESEARCH INTERESTS

Municipal solid waste management, Plastics pollution, Landfilling, and Landfill leachate management.

ACADEMIC HONORS AND AWARDS

- 2023 40 under 40 Recognition Program, American Academy of Environmental Engineers and Scientists
- 2019 First Place, flash talk, 1st annual Alpha Epsilon Honor Society Research Symposium, Virginia Tech

- 2019 Gold Award, oral presentation, 35th Annual Graduate Student Assembly Research Symposium, Virginia Tech
- 2019 Graduate Teaching Assistant Excellence Award, Departmental Nominee, Civil and Environmental Engineering, Virginia Tech
- 2019 Diversity Scholar, Office of Recruitment, Diversity, and Inclusion – Graduate School, Virginia Tech
- 2018 Civil and Environmental Engineering Teaching Fellow, Virginia Tech
- 2017 First Place, oral presentation, 33rd Annual Graduate Student Assembly Research Symposium, Virginia Tech
- 2016 – 2019 Environmental Research and Education Foundation Ph.D. Scholarship
- 2016 & 2017 Runner up, Environmental Challenge International Competition
- 2016 Jaqueline Shields Memorial Scholarship, Air & Waste Management Association
- 2016 Solid Waste Institute for Sustainability – International Solid Waste Association Scholarship, University of Texas, Arlington
- 2015 Pratt Graduate Fellowship, Virginia Tech
- 2007 – 2012 University Merit Scholarship, Bangladesh University of Engineering and Technology
- 2007 – 2012 Dean's List Award, Bangladesh University of Engineering and Technology

PEER REVIEWED PUBLICATIONS

* **Corresponding/Co-corresponding author.**

- 13** Golwala, H., Saha, B., Zhang, X., Bolyard, S., He, Z., Novak, J.T., Deng, Y., Brazil, B., DeOrio, F.J., Iskander, S.M. * 2022. Advancement and challenges in municipal landfill leachate treatment – the path forward! *ACS ES&T Water. Supplementary Cover*, 2, 8, 1289-1300.
- 12** Wang, P., Zarei Baygi, A., Saucedo, C., Iskander, S.M., Smith, A. L.* 2021. Long-Term Surveillance of Wastewater SARS-CoV-2 in Los Angeles County. *Environmental Science: Water Research & Technology*, 7, 2282-2294.
- 11** Iskander, S.M., Amha, Y.M., Wang, P., Dong, Q., Liu, J., Corbett, M., Smith, A.L.* 2021. Investigation of fats, oils, and grease co-digestion with food waste in anaerobic membrane bioreactors and the associated microbial community using MinION sequencing. *Frontiers in Bioengineering and Biotechnology*, 9, 206.
- 10** Golwala, H., Zhang, X., Iskander, S. M.*, Smith, A. L.*, 2021. Solid Waste: An Overlooked Source of Microplastics to the Environment. *Science of The Total Environment*, 769, 144581.
- 9** Xu, B., Iskander, S.M., He, Z.* , 2020. Dominant formation of unregulated disinfection by-products during electrocoagulation treatment of landfill leachate. *Environmental Research*, 182, 109006.

- 8 Iskander, S.M., Zeng, T., Smiley, E., Bolyard, S., Novak, J.T., He, Z.* , 2020. Formation of disinfection byproducts during Fenton's oxidation of chloride-rich landfill leachate. **Journal of Hazardous Materials**, 382, 121213.
- 7 Iskander, S.M., Novak, J.T., He, Z.* , 2019. Reduction of reagent requirements and sludge generation in Fenton's oxidation of landfill leachate by synergistically incorporating forward osmosis and humic acid recovery. **Water Research**, 151, 310-317.
- 6 Iskander, S.M., Zhao, R., Pathak, A., Gupta, A., Pruden, A., Novak, J.T., He, Z.* , 2018. A review of landfill leachate induced ultraviolet quenching substances: Sources, characteristics, and treatment. **Water Research**, 145, 297-311.
- 5 Iskander, S.M., Novak, J.T. and He, Z.* , 2018. Enhancing forward osmosis water recovery from landfill leachate by desalinating brine and recovering ammonia in a microbial desalination cell. **Bioresource Technology**, 255, 276-282.
- 4 Iskander, S.M., Novak, J.T., Brazil, B., He, Z.* , 2017. Simultaneous energy generation and UV quencher removal from landfill leachate using a microbial fuel cell. **Environmental Science and Pollution Research**, 24 (33), 26040–26048.
- 3 Iskander, S.M., Novak, J.T., Brazil, B., He, Z.* , 2017. Percarbonate oxidation of landfill leachates towards removal of ultraviolet quenchers. **Environmental Science: Water Research & Technology**, 3(6), 1162-1170.
- 2 Iskander, S.M., Zou, S., Brazil, B., Novak, J.T., He, Z.* , 2017. Energy consumption by forward osmosis treatment of landfill leachate for water recovery. **Waste Management**, 63, 284-291.
- 1 Iskander, S.M., Brazil, B., Novak, J.T., He, Z.* , 2016. Resource recovery from landfill leachate using bioelectrochemical systems: Opportunities, challenges, and perspectives. **Bioresource Technology**, 201, 347-354.

CONFERENCE PROCEEDINGS

1. Iskander, S.M., 2016. A Broader Perspective of the Municipal Solid Waste Management Systems in Dhaka, Bangladesh. International Solid Waste Association (ISWA) – Solid Waste Institute for Sustainability (SWIS) Winter School Proceedings, pp 107-118.

TALK/CONFERENCE PRESENTATIONS

- Iskander, S.M., Saha, B. Microplastics in organic waste compost: occurrence and degradation. American Chemical Society (ACS) Conference, Chicago, IL, August 2022.
- Iskander, S.M., Saha, B. Microplastics in organic waste compost: occurrence and degradation. Association of Environmental Engineering and Science Professors (AEESP) Conference, St. Louis, MO, June 2022.
- Iskander, S.M. Reduction in required reagents and sludge generation in Fenton's oxidation of landfill leachate through forward osmosis and humic acid recovery, ND Environmental Conference, Bismarck, North Dakota, September 2021.
- Iskander, S.M. Recovering waste resources and addressing emerging contaminants for sustainability, North Dakota State University – Vellore Institute of Technology seminar series, March 2021.

- Iskander, S.M. Recovering wastewater resources for sustainability. American Water Works Association/Water Environment Federation Student Chapter Meeting, North Dakota State University, Jan 2021.
- Iskander, S.M. Recovering wastewater resources for sustainability. Department of Civil and Environmental Engineering, North Dakota State University, October 2020.
- Iskander, S.M. Recovering waste resources and addressing emerging contaminants for sustainability. Department of Civil and Environmental Engineering, North Dakota State University, April 2020.
- Iskander, S.M. Recovering wastewater resources and addressing emerging contaminants for sustainability. Astani Department of Civil and Environmental Engineering, University of Southern California, April 2020.
- Iskander, S.M. Recovering wastewater resources and addressing emerging contaminants for sustainability. Department of Civil and Environmental Engineering, Southern Illinois University, March 2020.
- Iskander, S.M. Recovering wastewater resources and addressing emerging contaminants for sustainability. Department of Civil, Environmental, and Construction Engineering, University of Central Florida, February 2020.
- Iskander, S.M., Novak, J.T., He, Z. Reduction of reagent requirements and sludge generation in Fenton's oxidation of landfill leachate by synergistically incorporating forward osmosis and humic acid recovery. Association of Environmental Engineering and Science Professors (AEESP) Conference, Tempe, AZ, May 2019.
- Iskander, S.M., Novak, J.T., He, Z. An Integrated forward osmosis - microbial desalination cell technique for enhanced water recovery from landfill leachate. Annual Alpha Epsilon Honor Society Research Symposium, Agricultural, Food, and Biological Engineering Department, Virginia Tech, VA, March 2019.
- Iskander, S.M., Novak, J.T., He, Z. Reduction in required reagents and sludge generation in Fenton's oxidation of landfill leachate through forward osmosis and humic acid recovery. 35th Graduate Student Assembly (GSA) Symposium, Virginia Tech, VA, March 2019.
- Iskander, S.M. Advanced oxidation for wastewater treatment. Annual Virginia Tech Wastewater Operator Short School, Blacksburg, VA, August 2018.
- Iskander, S.M., Novak, J.T., Brazil, B., He, Z. Simultaneous energy generation and ultraviolet quenchers removal from landfill leachate using a microbial fuel cell. Global Waste Management Symposium, Palm Springs, CA, February 2018.
- Iskander, S.M., Novak, J.T., Brazil, B., He, Z. An Integrated forward osmosis – microbial desalination cell technique for enhanced water recovery from landfill leachate. EREF WasteExpo, New Orleans, LA, May 2017.
- Iskander, S.M., Novak, J.T., Brazil, B., He, Z. Integrating microbial desalination with forward osmosis to complement water recovery from landfill leachate. 33rd Graduate Student Assembly (GSA) Symposium, Virginia Tech, VA, March 2017.
- Iskander, S.M., Novak, J.T., Brazil, B., He, Z. Pretreatment of landfill leachate for enhanced electricity generation in a microbial fuel cell. 32nd Graduate Student Assembly (GSA) Symposium, Virginia Tech, VA, March 2016.

TEACHING EXPERIENCE

Course Title	Semester	Student Evaluation	University
Solid and Hazardous Waste Management	Fall 2022	TBD	North Dakota State University
Microbiological Principles for Environmental Engineers	Spring 2022	4.44/5.0	North Dakota State University
Senior Design Environmental Engineering Consultant	Spring 2022	NA	North Dakota State University
Solid Waste Management	Fall 2021	4.14/5.0	North Dakota State University
Introduction to Environmental Engineering	Spring 2021	4.24/5.0	North Dakota State University
Introduction to Environmental Engineering	Fall 2018	4.80/6.0	Virginia Tech

Pedagogical Training

Peer Teaching Evaluation program, North Dakota State University, 2021

Teaching Certificate: Future Professoriate Certificate, Virginia Tech, 2018

Teaching Coursework, Virginia Tech

- Preparing the Future Professoriate
- Contemporary Pedagogy
- Communicating Science
- Diversity for the Global Society

MENTORING EXPERIENCE**North Dakota State University**

Ryan Anderson (01/21 – Present)	Micro/nanoplastics in municipal solid waste.
Kira Eliason (02/21 – Present)	Rare earth materials recovery from waste.
Biraj Saha (06/21 – Present)	Concentrated landfill leachate treatment for emerging contaminants removal.
Himani Yadav (08/21 – Present)	Human exposure to microplastics.
Md Tanbir Khan (08/22 – Present)	Degradation mechanisms of plastics in landfills.

University of Southern California

Bianca Costa (08/19 – 07/20)	Antibiotic resistance genes fate during food waste treatment.
Harmita Golwala (01/20 – 07/20)	Fate of food waste microplastics in anaerobic membrane bioreactors.
Xueyao Zhang (01/20 – 07/20)	Microplastics in the United States Landfills.

Virginia Tech

Jessie Chung (08/18 – 05/19)	An incorporated advanced oxidation and membrane distillation treatment of landfill leachate.
Bing Xu (01/19 – 05/19)	Disinfection byproducts formation during electrochemical treatment of landfill leachate.
Nick Lang (01/17 – 05/17)	Microbial desalination treatment of landfill leachate.
Qinying Zha (08/16 – 05/17)	Nitrification of landfill leachate for ammonia removal and effects of inhibiting factors on biomass growth.

RESEARCH GROUP MEMBER'S AWARDS AND HONORS

2022	Biraj Saha. Best team award, 2022 International Solid Waste Association-Solid Waste Institute for Sustainability (ISWA-SWIS) Winter School, The University of Texas at Arlington, USA.
2022	Ryan Anderson. First place in oral presentation, 2022 NDSU EXPLORE Showcase of Undergraduate Research and Creative Activity.
2022	Himani Yadav. Fifth place in oral presentation, 2022 Research Symposium of the Graduate Student Council, NDSU.
2022	Biraj Saha. Finalist, NDSU Three Minute Thesis Competition, Feb 2022.
2021	Biraj Saha. Full scholarship to participate in the International Solid Waste Association-Solid Waste Institute for Sustainability (ISWA-SWIS) Winter School in June 2022, at The University of Texas at Arlington, Texas, USA, Nov 2021.
2021	Danielle Peltier, Hannah Patenaude, Kjersten Winkelman, Rachel Kawleski. First place, The Environmental Challenge, Air & Waste Management Association – Upper Midwest Section (AWMA-UMS) and Central States Water Environment Association (CSWEA) – Minnesota Section, Nov 2021.
2021	Biraj Saha. First place, Young Professional Poster Competition, Annual ND Water and Pollution Control Conference, Oct 2021.
2021	Ryan Anderson. Second place, Young Professional Poster Competition, Annual ND Water and Pollution Control Conference, Oct 2021.
2021	Himani Yadav. Third place, Young Professional Poster Competition, Annual ND Water and Pollution Control Conference, Oct 2021.
2021	Kira Eliason. First place, AWWA's Fresh Ideas Poster Competition, ND American Water Works Association, Annual ND Water and Pollution Control Conference, Oct 2021.

2021 Ryan Anderson. Top presenter, at NDSU EXPLORE in the Biological, Health Sciences and Biomedical Engineering Category, April 2021.

EDUCATION AND OUTREACH

United Tribes Technical College, Bismarck, ND, July 13, 2022	Twelve visiting tribal high school students learned about density separation of microplastics from sand. This activity was a part of the ASPIRE Summer Camp program funded by the Department of Energy at UTTC.
Turtle Mountain Community College, Belcourt, ND, June 02, 2022	Hosted eight Turtle Mountain Community College pre-engineering students in the lab. They learned about the ongoing research of the group. North Dakota EPSCoR supported the program under the title Nurturing American Tribal Undergraduate Research and Education (NATURE).
NDSU STEM Kids Camp, Fargo, ND, July 19, 2022	Hosted five high school students in the lab. The high school students learned about density separation of microplastics and FTIR spectroscopy for microplastics characterization.
NSF RET Program, 2022	Shane Alderman from Bishop Verot High School and Kim McVicar from West Fargo Sheyenne High School spent four summer weeks at Iskander Lab to work on landfill refuse microplastics. Their work was supported by the National Science Foundation Research Experience for Teachers program.
NSF RET Program, 2021	Mike Dobberstein from Fargo North High School and Kim McVicar from West Fargo Sheyenne High School spent eight summer weeks at Iskander Lab to work on the environmental impact of leachate leakage from landfills. Their work was supported by the National Science Foundation Research Experience for Teachers program.

PROFESSIONAL MEMBERSHIP

- Air & Waste Management Association (AWMA)
- American Water Works Association (AWWA)
- Association of Environmental Engineering and Science Professors (AEESP)
- American Academy of Environmental Engineers & Scientists (AAEES)
- American Chemical Society (ACS)

CONFERENCE SESSION CHAIR/CO-CHAIR/ORGANIZER

- Session co-organizer and co-chair at the 2022 Intercontinental Landfill Research Symposium (ICLRS), Environmental Research and Education Foundation, Session title: Emerging contaminants.
- Session co-chair at the Association of Environmental Engineering and Science Professors (AEESP) 2022 conference, Session title: Resource Recovery from Wastes.

REVIEW ACTIVITY

- Grant and/or panel reviewer
 - United States Department of Agriculture (USDA)
 - Environmental Research and Education Foundation (EREF)

- University of Wisconsin Aquatic Sciences Center

- Reviewer, AEESP Student Services Committee Academic Job Application Review 2022.
- Water Research, ACS ES&T Engineering, Journal of Hazardous Materials, Bioresource Technology, Desalination, Waste Management, Science of the Total Environment, Separation and Purification Technology, Journal of Environmental Engineering, Sustainable Energy & Fuels, Arabian Journal of Chemistry, Journal of Environmental Health Science and Engineering, Water Science and Technology, Environmental Science and Pollution Research, Process Safety and Environmental Protection, Water Environment Research, Bioresources and Bioprocessing, RSC Advances, Journal of Water Process Engineering, Water, Journal of the Air & Waste Management Association, Frontiers of Environmental Science and Engineering, PLOS ONE.