Huifang Bi (She, Her)
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HIGHLIGHTS

- Published **11 journal papers** as first author and **26 total publications** in high-impact journals such as *ACS ES&T Water, Journal of Hazardous Materials*, *Environmental Science: Nano*, and *Journal of Environmental Management* and **10 conference articles**.
- Awarded the ***Vanier Canada Graduate Scholarship*** **(Canada's most prestigious graduate award)** and multiple competitive research scholarships, including *FRQNT Doctoral Research Scholarship* and ***International Oil Spill Conference 2024 (IOSC 2024) Scholarship*** (Triennial Event; only 23 recipients worldwide).
- Research on advancing sustainable solutions to protect coastal environments from spilled oil has been featured by *Concordia News*, *IAGLR Lakes Letter*, *AZoNano*, *Environment coastal & offshore*, etc.
- Contributed to **6 national research projects** funded by *Natural Resources Canada, Fisheries and Oceans Canada, NSERC*, and *FRQNT*, focusing on shoreline oil spill response and remediation.
- Actively involved in **academic leadership** as organizing member in events such as *PEOPLE 2023*, *International Oil Spill Science Conference 2022 (IOSSC 2022)*, and *MPRI Student Research Forum 2021,* as **the coordinator in *IOSSC 2026*** and as reviewer for over 30 journal articles.
- Passionate about **teaching, mentorship, and outreach**, serving as teaching assistant for 3 courses and lab instructor for over 10 students, mentoring 2 thesis-based graduate students, and engaging in science outreach for high school students.
- **Engineer-in-Training (EIT) designation in progress** with the goal of obtaining professional engineering licensure in Canada, demonstrating commitment to advancing professional practice.

RESEARCH INTERESTS & EXPERTISE

- **Contaminant fate and transport in soils and subsurface systems**: Multiphase flow, microbial biodegradation of contaminants, and contaminant migration and retention in porous media under hydrodynamic and climate stressors.
- **Sustainable remediation technologies**: Development of nature-inspired approaches that promote microbial degradation and ecosystem recovery (e.g., bio-based hydrogel coatings, eco-friendly washing agents) for contaminated sites.
- **Environmental interfaces and multiphase systems**: Surface chemistry, wettability, microemulsion system, responsive separation processes, oil/particles and oil/biofilm interactions.
- **Analytical and experimental tools:** Skilled in GC-MS, GC-FID, HPLC, UV-Vis, LISST particle analyzer, Zetasizer Nano, tensiometer, FTIR, SEM, contact angle goniometry, and pilot-scale tank simulators.
- **Interdisciplinary collaboration**: Experience working with academic, government, Indigenous, and

industry partners across six large-scale federally funded Canadian projects.

EDUCATION

- **Doctor of Philosophy, Civil Engineering (Defense in December 2025)** 09/2021 – Present
  Supervisors: Dr. Chunjiang An and Dr. Catherine Mulligan
  Concordia University, Montreal, QC, Canada
  CGPA: 4.3/4.3
- **Master of Applied Science, Civil Engineering** 05/2019 – 08/2021
  Supervisors: Dr. Chunjiang An and Dr. Catherine Mulligan
  Concordia University, Montreal, QC, Canada
  CGPA: 4.0/4.3
- **Exchange student** 01/2018 – 06/2018
  University of North Dakota, Grand Forks, ND, America
  Graduation Project Direction: Pressure Transient Analysis in Pipelines
- **Bachelor of Engineering, Oil & Gas Storage and Transportation Engineering** 09/2014 – 07/2018
  China University of Petroleum (East China), Qingdao, Shandong, China
  Overall GPA:86.48/100 Major GPA:87.35/100
  Thesis: Water Hammer Analysis of Oil Pipeline

RESEARCH EXPERIENCE

- **Research Assistant -** Concordia University 05/2019 – Present
  Evaluate and select shoreline surface washing agents in oil spill response
  Modify nanoclay with a surfactant as a washing fluid for oiled beach sand treatment
  Develop a novel and green coating strategy for combatting spilled and stranded oil in oil spill response
  Explore the phase-selective organogelators for marine oil spill remediation
- **Research Assistant -** China University of Petroleum (East China) 01/2017 – 06/2018
  Apply the programming tool to do the simulation analysis of water hammer
  Investigate into the Sinopec Qingdao LNG Terminal on energy saving & emission reduction

SCHOLARSHIPS & PRIZE

- Vanier Canada Graduate Scholarship (Canada's most prestigious graduate award) 05/2023 – Present
- FRQNT Doctoral Research Scholarship 05/2023 – Present
- 2024 International Oil Spill Conference Scholarship 05/2024
- Carolyn and Brian Neysmith Graduate Scholarship 05/2023-01/2024
- Concordia University Conference and Exposition Award 08/2023
- Top Concordian Graduate Entrance Scholarship 09/2021 – 2022/09
- Concordia University Conference and Exposition Award 10/2022

- Special Recognition Award by International Oil Spill Science Conference 10/2022
- The Leonard F. Ruggins Scholarship 09/2021 – 01/2023
- Concordia University International Tuition Award of Excellence 09/2021 – Present
- Concordia Merit Scholarship 05/2019 – 08/2021
- Research Fellowships 05/2019 – 08/2021

PEER-REVIEWED JOURNAL ARTICLES

1) **Bi, H.**, Mulligan, C.N., Ji, W., Yang, X., Lee, K., Zhang, B., Lyu, L., An, C., 2025. Mechanistic Insights into Mitigating Spilled Oil on Shorelines with Bio-Based Coatings: Oil Transport Behavior and Enhanced Biodegradation Dynamics. ***ACS ES&T Water***, in press.
DOI: https://doi.org/10.1021/acsestwater.5c00132

2) Yang, X., Huang, G., Geng, X., Lyu, L., **Bi, H.**, An, C., 2025. Deciphering the Behavior and Fate of Microplastics in Coastal Aquatic Environments: A Comprehensive Review Illuminating Coastal Dynamics and Driving Mechanisms. ***Earth-Science Reviews***, 270, 105235.
DOI: https://doi.org/10.1016/j.earscirev.2025.105235

3) Yang, X., **Bi, H.**, Huang, G., Zhang, H., Lyu, L., An, C., 2025. Unraveling the Resuspension and Transformation of Stranded Oil: Mechanisms Driving Oil-particle Aggregate Formation in Intertidal Zones. ***Journal of Hazardous Materials***, 495, 138966.
DOI: https://doi.org/10.1016/j.jhazmat.2025.138966

4) **Bi, H.**, Wang, Z., Yue, R., Sui, J., Mulligan, C.N., Lee, K., Pegau, S., Chen, Z., An, C., 2025. Oil Spills in Coastal Regions of the Arctic and Subarctic: Environmental Impacts, Response Tactics, and Preparedness. ***Science of the Total Environment***, 958, 178025.
DOI: https://doi.org/10.1016/j.scitotenv.2024.178025

5) **Bi, H.,** Mulligan, C.N., Lee, K., Zhang, B., Chen, Z., An, C., 2025. Nanotechnology for Oil Spill Response and Cleanup in Coastal Regions. ***Environmental Science: Nano***, 12, 41-47.
DOI: https://doi.org/10.1039/D4EN00954A

6) Li, M., Huang, G., Chen, X., Xiao, H., An, C., Yin, J., **Bi, H.**, Feng, R., Huang, J., Xin, X., 2024. Development of An Antimicrobial and Antifouling PES Membrane with ZnO/poly (hexamethylene biguanide) Nanocomposites Incorporation. ***Chemical Engineering Journal***, 481, 148744,
DOI: https://doi.org/10.1016/j.cej.2024.148744

7) Yang, X., Huang, G., Feng, Q., An, C., Zhou, S., **Bi, H.**, Lyu, L., 2024. Unveiling the Vertical Migration of Microplastics with Suspended Particulate Matter in the Estuarine Environment: Roles of Salinity, Particle Properties, and Hydrodynamics. ***Environmental Science & Technology***, 58, 2944–2955.
DOI: https://pubs.acs.org/doi/10.1021/acs.est.3c08186

8) Yang, X., Huang, G., Chen, Z., Feng, Q., An, C., Lyu, L., **Bi, H.**, Zhou, S., 2024. Spotlight on the Vertical Migration of Aged Microplastics in Coastal Waters. ***Journal of Hazardous Materials***, 469 134040.
DOI: https://doi.org/10.1016/j.jhazmat.2024.134040

9) Qu, Z., Yue, R., **Bi, H.**, Zhao, S., Boufadel, M., Chen, X., An, C., 2024. Investigation of the Vertical Infiltration of Spilled Oil in Soil Impacted by Root Netting and Surface Rainfall. ***Journal of Environmental Engineering***, 150, 04024039.

   DOI: https://doi.org/10.1061/JOEEDU.EEENG-768

10) Sui, J., Yue, R., **Bi, H.**, Fu, H., Yang, A., Wang, M., An, C., 2024. Exploring the Glycoprotein Washing Fluid-assisted Cleanup for the Restoration of Oil-contaminated Shorelines with Environmental Integrity. ***Science of The Total Environment***, 953, 176165.

   DOI: https://doi.org/10.1016/j.scitotenv.2024.176165.

11) **Bi, H.**, Mulligan, C.N., Zhang, B., Biagi, M., An, C., Yang, X., Lyu, L., Chen, X., 2023. A Review on Recent Development in the Use of Surface Washing Agents for Shoreline Cleanup after Oil Spills. ***Ocean and Coastal Management***, 245, 106877.
   DOI: https://doi.org/10.1016/j.ocecoaman.2023.106877

12) **Bi, H.**, Mulligan, C.N., Lee, K., An, C., Wen, J., Yang, X., Lyu, L., Qu, Z., 2023. Preparation, Characteristics, and Performance of the Microemulsion System in the Removal of Oil from Beach Sand. ***Marine Pollution Bulletin***, 193, 115234.
   DOI: https://doi.org/10.1016/j.marpolbul.2023.115234

13) Qu, Z., An, C., Yue, R., **Bi, H.**, Zhao, S., 2023. Assessment of the Infiltration of Water-in-oil Emulsion into Soil after Spill Incidents. ***Science of The Total Environment***, 896, 165325.

   DOI: https://doi.org/10.1016/j.scitotenv.2023.165325

14) Lyu, L., Bagchi, M., Markoglou, N., An, C., Peng, H., **Bi, H.**, Yang, X., and Sun, H., 2023. Towards Environmentally Sustainable Management: A Review on the Generation, Degradation, and Recycling of Polypropylene Face Mask Waste. ***Journal of Hazardous Materials***, 461, 132566.

   DOI: https://doi.org/10.1016/j.jhazmat.2023.132566

15) Lyu, L., Peng, H., An, C., Sun. H., Yang, X., and **Bi, H.**, 2023. An Insight into the Benefits of Substituting Polypropylene with Biodegradable Polylactic Acid Face Masks for Combating Environmental Emissions. ***Science of The Total Environment***, 905, 167137.

   DOI: https://doi.org/10.1016/j.scitotenv.2023.167137

16) **Bi, H.**, An, C., Mulligan, C.N., Chen, Z., Lee, K., Wen, J., Qu, Z., Chen, X., 2022. Application of Phase-Selective Organogelators (PSOGs) for Marine Oil Spill Remediation. ***Journal of Marine Science and Engineering***, 10(8), 1111.
   DOI: https://doi.org/10.3390/jmse10081111

17) **Bi, H.**, Mulligan, C.N., An, C., Owen, E., Taylor, E., McCourt, J., Yin, J., Feng, Q., Chen, X., Yue, R., 2022. Development of A Calcium Alginate-cellulose Nanocrystal-based Coating to Reduce the Impact of Oil Spills on Shorelines. ***Journal of Hazardous Materials***, 436, 129228.

   DOI: https://doi.org/10.1016/j.jhazmat.2022.129228

18) Lyu, L., Wang, Z., Bagchi, M., Ye, Z., Soliman, A., Bagchi, A., Markoglou, N., Yin, J., An, C., Yang, X., **Bi, H.**, and Cai, M., 2022. An Investigation into the Aging of Disposable Face Masks in Landfill Leachate. ***Journal of Hazardous Materials***, 446, 130671.

DOI: https://doi.org/10.1016/j.jhazmat.2022.130671

19) **Bi, H.**, An, C., Mulligan, C.N., Zhang, K., Lee, K., Yue, R., 2022. Treatment of Oiled Beach Sand using A Green and Responsive Washing Fluid with Nonionic Surfactant-modified Nanoclay. ***Journal of Cleaner Production***, 333, 130122.

DOI: https://doi.org/10.1016/j.jclepro.2021.130122

20) Chen, X., **Bi, H.**, Yue, R., Chen, Z., An, C., 2022. Effects of Oil Characteristics on the Performance of Shoreline Response Operations: A Review. ***Frontiers in Environmental Science***, 10, 2043. DOI: https://doi.org/10.3389/fenvs.2022.1033909

21) Wan, S., Yang, X., Chen, X., Qu, Z., An, C., Zhang, B., Lee, K., **Bi, H.**, 2022. Emerging Marine Pollution from Container Ship Accidents: Risk Characteristics, Response Strategies, and Regulation Advancements. ***Journal of Cleaner Production*****,** 376, 134266,

DOI: https://doi.org/10.1016/j.jclepro.2022.134266.

22) **Bi, H.**, An, C., Mulligan, C.N., Wang, Z., Zhang, B., Lee, K., 2021. Exploring the Use of Alginate Hydrogel Coating as A New Initiative for Emergent Shoreline Oiling Prevention. ***Science of the Total Environment***, 797, 149234.

DOI: https://doi.org/10.1016/j.scitotenv.2021.149234

23) **Bi, H.**, An, C., Owens, E., Lee, K., Chen, Z., Mulligan, C.N., Taylor, E., Boufadel M., 2021. A Framework for the Evaluation and Selection of Shoreline Surface Washing Agents in Oil Spill Response. ***Journal of Environmental Management***, 287, 112346.

DOI: https://doi.org/10.1016/j.jenvman.2021.112346

24) Yue, R., An, C., Ye, Z., **Bi, H.**, Chen, Z.K., Liu, X., Zhang, X., Lee, K., 2021. Cleanup of Oiled Shoreline Using a Dual Responsive Nanoclay/Sodium Alginate Surface Washing Agent. ***Environmental Research***, 205, 112531.

DOI: https://doi.org/10.1016/j.envres.2021.112531

25) Yue, R., An, C., Ye, Z., Gao, S., Chen, X., Zhang, B., Lee, K., **Bi, H.**, 2021. A pH-responsive Phosphoprotein Surface Washing Fluid for Cleaning Oiled Shoreline: Performance Evaluation, Biotoxicity Analysis, and Molecular Dynamic Simulation. ***Chemical Engineering Journal***, 437, 135336.

DOI: https://doi.org/10.1016/j.cej.2022.135336

26) **Bi, H.**, An, C., Chen, X., Owens, E., Lee, K., 2020. Investigation into the Oil Removal from Sand using a Surface Washing Agent under Different Environmental Conditions. ***Journal of Environmental Management***, 275, 111232.
DOI: https://doi.org/10.1016/j.jenvman.2020.111232

CONFERENCE PUBLICATIONS

1) **Bi, H**., et al. Investigation of Bio-Based Coatings for Shoreline Oil Removal and Biodegradation in Oil Spill Response. *Canadian Chemistry Conference and Exhibition (CSC 2025)*, Ottawa, Canada. June 15-19, 2025.

2) **Bi, H**., et al. Exploration of Green Responsive Separation Techniques for the Treatment of Washing Effluents. *IAGLR's 68th Annual Conference on Great Lakes Research (IAGLR 2025)*, Milwaukee, USA. June 2-6, 2025.
3) **Bi, H**., et al. Advancing Shoreline Oil Spill Cleanup: Bio-based Coatings for Oil Removal and Biodegradation. *23th Global Joint Seminar on GeoEnvironmental Engineering (GEE 2025)*, Montreal, Canada. May 22-23, 2025.
4) **Bi, H**., et al. Advancing Spill Response in Coastal Regions through the Use of the Functionalized Coating for Oiling Prevention. *International Oil Spill Conference 2024,* New Orleans, USA. May 13-16, 2024. **(Conference award)**
5) **Bi, H**., et al. Exploration of a Bio-based Coating Strategy as An Oil Spill Response Countermeasure. *IAGLR's 67th Annual Conference on Great Lakes Research (IAGLR 2024),* Windsor, Canada. May 20-24, 2024.
6) **Bi, H**., et al. Removal of Stranded Oil from Sand using A Microemulsion Technique. *PEOPLE 2023*, Montreal, Canada. August 7-11, 2023.
7) **Bi, H**., et al. Investigation into A Calcium Alginate-cellulose Nanocrystal -based Coating for Shoreline Cleanup. *International Oil Spill Science Conference 2022*, Halifax, Canada. October 4-7, 2022.
8) **Bi, H**., et al. Investigation into the Oiled Sand Treatment using a Responsive Washing Fluid with Modified Nanoclay. *PEOPLE 2022*, Virtual. August 24-26, 2022.
9) **Bi, H**., et al. Investigation into the Use of Alginate Hydrogel Coating for Combatting Spilled and Stranded Oil in Shoreline. *Multi-Partner Oil Spill Research Initiative (MPRI) Student Research Forum*, Virtual. September 23-24, 2021.
10) **Bi, H**., et al. Investigation into the Oil Removal from Sand using a Surface Washing Agent under Different Environmental Conditions, *Multi-Partner Oil Spill Research Initiative (MPRI) Student Research Forum*, Virtual. November 13, 2020.
11) **Bi, H**., et al. Performance of a Surface Washing Agent Impacted by Environmental Conditions. *70th Canadian Chemical Engineering Conference (CCEC 2020)*, Virtual. October 25-28, 2020.
12) Yue, R., An, C. Ye, Z., Gao, S., Chen, X., and **Bi, H**. A pH-responsive Protein Surface Washing Fluid for Oil Cleanup. *International Oil Spill Science Conference 2022*, Halifax, Canada. October 4-7, 2022.
13) Chen, Z.K., An, C. Tian, X., and **Bi, H**. Investigating the Potential Application of Biomass-derived Nanoparticles in Oiled Beach Cleanup. *70th Canadian Chemical Engineering Conference (CCEC 2020)*, Virtual. October 25-28, 2020.

TECHNICAL REPORTS

- C. An, **H. Bi**, et al., Final Report of Washing Agent-Aided Shoreline Treatment Tool Sets, *Multi-partner Oil Spill Research Initiative, Fisheries and Oceans Canada* 05/2022
- C. An, **H. Bi**, et al., Final Report of Oil Translocation Pathways and Processes in Canadian Shoreline Environments, *Multi-partner Oil Spill Research Initiative, Fisheries and Oceans Canada* 05/2022

RESEARCH PROJECTS PARTICIPATION

- Enhanced understanding of the fate and behaviour of oil for improving spill response in Canadian estuarine shorelines, **Multi-Partner Research Initiative (MPRI)**, Natural Resources Canada -- *Research Group Member* 2023 – Present
- Development and evaluation of improved low-toxicity surface washing agents for shoreline spill response, **Multi-Partner Research Initiative (MPRI)**, Natural Resources Canada -- *Research Group Member* 2023 – Present
- Use of functionalized alginate hydrogel coating as a new initiative for emergent shoreline oiling prevention, Research Support for New Academics, Fonds Nature et technologies (FRQNT) -- *Research Group Member* 2021 – 2023
- Multifunction Surface Washing Agents for Enhanced Recovery of Oiled Shorelines, **Oil Spill Response Challenge**, Natural Resources Canada -- *Research Group Member* 2022 – 2023
- Green Surface Washing for the Cleanup of Oiled Shoreline in the Complicated Environment, Discovery Grant from the Natural Sciences and Engineering Research Council of Canada (NSERC) -- *Research Group Member* 2022 – Present
- Washing Agent-Aided Shoreline Treatment Tool Sets – Evaluation, Improvement and Development, **Multi-Partner Research Initiative (MPRI)**, Fisheries and Oceans Canada -- *Research Group Member* 2018 – 2022
- Oil Translocation Pathways and Processes in Canadian Shoreline Environments, **Multi-Partner Research Initiative (MPRI)**, Fisheries and Oceans Canada -- *Research Group Member* 2018 – 2022

MENTORSHIP

- **Graduate Instructor** – Concordia University 09/2024 – Present
  - Mentor graduate student Jessel Tan for her master thesis on the topic of oil removal using functionalized biochar
  - Train the student in basic experimental procedures and using lab instruments, such as GC-FID, orbital shaker, and high-speed centrifuge
- **Graduate Instructor** – Concordia University 01/2023 – Present
  - Mentor graduate student Jiyao Sui for his master thesis on the topic of using green washing agents to removal oil from shoreline
  - Train the student in experimental procedures and using lab instruments, such as UV-Vis spectrophotometer, Zetasizer Nano ZS90, and FTIR
  - Review and edit the student's manuscript to ensure accuracy and clarity
- **Laboratory Instructor** – Concordia University 09/2019 – Present
  - Guide graduate students Emmanuel Mbah, Shima Shojaei, Samantha Wilcox, Sara Pakdaman, etc. in the use of FTIR, Tensimeter, Optical Contact angle Goniometer, viscometer

TEACHING

- **Teaching Assistant – Concordia University** 05/2020 – 04/2025

ENGR 202 Sustainable Development and Environmental Stewardship
ENGR 301 Engineering Management Principles and Economics
CIVI 361 Introduction to Environmental Engineering
- Lead discussions and work with students in laboratories; grade course assessments to ensure students understand material and stay on track; organize meetings with students for answering questions or exam review; clarify reading material or assignment for students; deal with conflicts among team members and personal special situations

- **Certificate in University Teaching (All Disciplines)** 08/2024
  - Write teaching philosophy statement; develop concept maps and course syllabus; teach a mini-lesson

SERVICE

- **Journal Reviewer** Since 02/2020
  Journal of Hazardous Material (2025)
  Journal of Environmental Management (2025)
  Separation and purification technology (2024-2025)
  Marine Pollution Bulletin (2023-2025)
  Cleaner Engineering and Technology (2024-2025)
  Environmental Systems Research (2020-2025)
- **Student editorial assistant** Since 05/2025
  Assisting editorial process for the Special Issue "Focus on for Environmental Challenges in Indigenous Communities: New Perspectives and Solutions" (Environmental Research Communications, IOP Science)
- **Invited science outreach speaker** 03/2025
  Engaging high school students from Buxton School (Massachusetts, USA) in a discussion on using functionalized hydrogel coating on shoreline for coastal oil spill cleanup
- **Invited panelist** 05/2024
  Top Students Event (Gina Cody School of Engineering and Computer Science, Concordia University), sharing academic journey and advice with prospective graduate students
- **Invited speaker** 09/2023 & 01/2024
  Graduate Orientation, (Department of Building, Civil and Environmental Engineering, Concordia University), delivering a talk on experiences and lessons learned as an outstanding graduate student, offering mentorship advice

EVENT ORGANIZATION & ADMINISTRATION

- **Coordinator**, *International Oil Spill Science Conference 2026* 06/2025 – 10/2026
- **Organizing Team Member**, *23rd Global Joint Seminar on GeoEnvironmental Engineering (GEE 2025)* 05/2025

- **Organizing Team Member**, *PEOPLE 2023 International Conference* 05/2023 – 08/2023
- **Organizing Team Member**, *International Oil Spill Science Conference 2022* 12/2021 – 10/2022
- **Technical Support Team**, *Multi-partner Research Initiative Workshop (ITAC-MPRI Workshop 2021)* 11/2021
- **Technical Support Team**, *Multi-Partner Research Initiative (MPRI) Student Research Forum 2021* 09/2021
- **Volunteer**, *Global Joint Seminar on Geo-Environmental Engineering (GEE 2019)* 05/2019

PROFESSIONAL MEMBERSHIPS

- CSCE (Canadian Society for Civil Engineering) 10/2022 – Present
- IAGLR (International Association for Great Lakes Research) 04/2024 – Present
- ASCE (American Society of Civil Engineers) 07/2024 – Present
- SPE (Society of Petroleum Engineers) 01/2022 – Present
- CAWQ (Canadian Association on Water Quality) 08/2025 – Present
- PEOPLE Network 08/2021 – Present

OUTREACH

Personal work

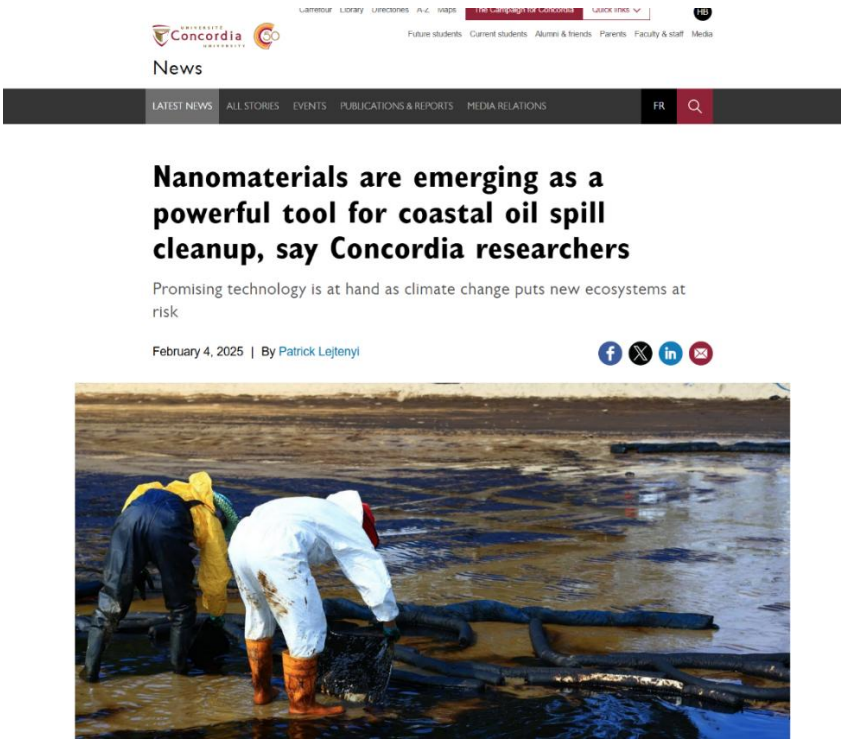
- Featured by NANOTECHNOLOGY NEWSLETTER regarding research on nanomaterials are emerging as a powerful tool for coastal oil spill cleanup (https://international-aset.com/PDF/NanoTech_Newsletter.pdf) 05/2025
- Featured by Concordia University regarding research on nanomaterials are emerging as a powerful tool for coastal oil spill cleanup (https://www.concordia.ca/news/stories/2025/02/04/nanomaterials-are-emerging-as-a-powerful-tool-for-coastal-oil-spill-cleanup-say-concordia-researchers0.html) 02/2025
- Featured by International Association for Great Lakes Research (IAGLR) Lakes Letter magazine (https://iaglr.org/lakesletter/contents/2024-fall/) 11/2024
- Featured by Journal of Marine Science and Engineering regarding research on application of Phase-Selective Organogelators for marine oil spill remediation (https://www.linkedin.com/posts/journal-of-marine-science-and-engineering_highcitedpaper-oilspill-organogelators-activity-7265371456417525761-gciU/) 02/2024
- Featured by Concordia University as a recipient of the prestigious 2023 Vanier Graduate Scholarship regarding research on oil-spill cleanup techniques (https://www.concordia.ca/news/stories/2023/08/29/huifang-bi-and-victoria-may-are-concordia-s-2023-vanier-graduate-scholarship-winners.html) 08/2023
- Featured by Envirobites regarding research on application of Phase-Selective Organogelators for marine oil spill remediation (https://envirobites.org/2022/09/01/a-new-compound-makes-waves-for-oil-spill-clean-up/) 09/2022

- Featured by AZoNano regarding research on a green strategy to oil spill cleanup (https://www.azonano.com/news.aspx?newsID=38404) 12/2021

Teamwork

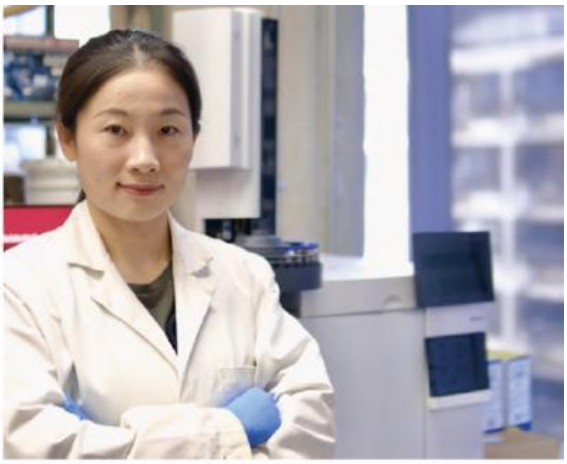
- Featured by Concordia University regarding research projects under Multi-Partner Research Initiative of Natural Resources Canada (https://educationnewscanada.com/article/education/level/university/1/1090474/gina-cody-school-secures-1-58m-from-natural-resources-canada-to-explore-oil-spill-response-and-low-toxicity-cleaning-agents.html) 06/2024
- Featured by EurekAlert! Regarding the research regrading container ship accident issues (https://www.eurekalert.org/news-releases/971568) 11/2022
- Featured by Impact Canada as semi-finalists of Oil Spill Response Challenge by Natural Resources Canada (https://impact.canada.ca/en/challenges/oil-spill-response#ps3) 09/2022

APPENDIX:



Huifang Bi: "We should prioritize sustainable and eco-friendly nanomaterials to minimize environmental risks and ensure the responsible application of nanotechnology in coastal oil spill response."

Figure 1. Screenshot from Concordia News featuring **Huifang Bi** discussing the importance of sustainable and eco-friendly nanomaterials for responsible oil spill response.



MEMBER SPOTLIGHT

Meet Huifang Bi

Master of Engineering & Ph.D. Candidate
Concordia University, Montréal

Describe your work or studies.

Spilled oil reaching shorelines can be highly weathered and hard to remove, and there is a need to develop an environmentally friendly, easy way to wash out the deposited oil, or even prevent the spilled oil from adhering on the shoreline. My research focuses on the development of green shoreline oiling prevention and treatment techniques to reduce the impacts of spilled oil in coastal regions. I am currently developing a biomass-derived coating with special wetting properties to reduce oil adhesion on sensitive shorelines and structures during emergency spill response. Meanwhile, I am also exploring whether this *functionalized coating* (one that has novel functions beyond its primary purpose) can enhance the biodegradation rates of the residual oil released into surrounding waters.

What inspired you to enter this work?

I grew up in a city by the shoreline, and I love the peaceful feeling of walking by the water. Since May 2019, as a master's

into practical applications for the oil spill response toolbox, helping responders protect coastal and freshwater ecosystems more sustainably.

What is something about yourself that you'd like to share with other IAGLR members?

In addition to my research, I actively participated in some forums, workshops, and conferences (e.g., IAGLR 2024) to

Figure 2. Screenshot from the International Association for Great Lakes Research (IAGLR) Lakes Letter magazine featuring **Huifang Bi**'s research on functionalized coatings for shoreline oil spill response.

Huifang Bi and Victoria May are Concordia's 2023 Vanier Graduate Scholarship winners

The pair have been recognized for their respective work on oil-spill cleanup techniques and making the performing arts sector accessible to Indigenous youth

August 29, 2023 | By Maya Lach-Aidelbaum

From left: Huifang Bi, MASc 21, and Victoria May, MA 23.

Figure 3. Screenshot from Concordia University News featuring **Huifang Bi (left)** as a recipient of the prestigious 2023 Vanier Graduate Scholarship.

Gina Cody School secures $1.58M from Natural Resources Canada to explore oil-spill response and low-toxicity cleaning agents

This kind of research is 'critical for protecting our coastlines and ecosystems,' says principal investigator Chunjiang An

June 20, 2024 | By Vincent Allaire

Figure 4. Screenshot from Concordia University News highlighting a $1.58M research grant from Natural Resources Canada's Multi-Partner Research Initiative (MPRI) to support oil-spill response and low-toxicity cleaning agents. The research, led by Dr. Chunjiang An and his team, focuses on developing sustainable solutions for protecting shorelines and ecosystems. **Huifang Bi (second from left)** is actively involved in the project.

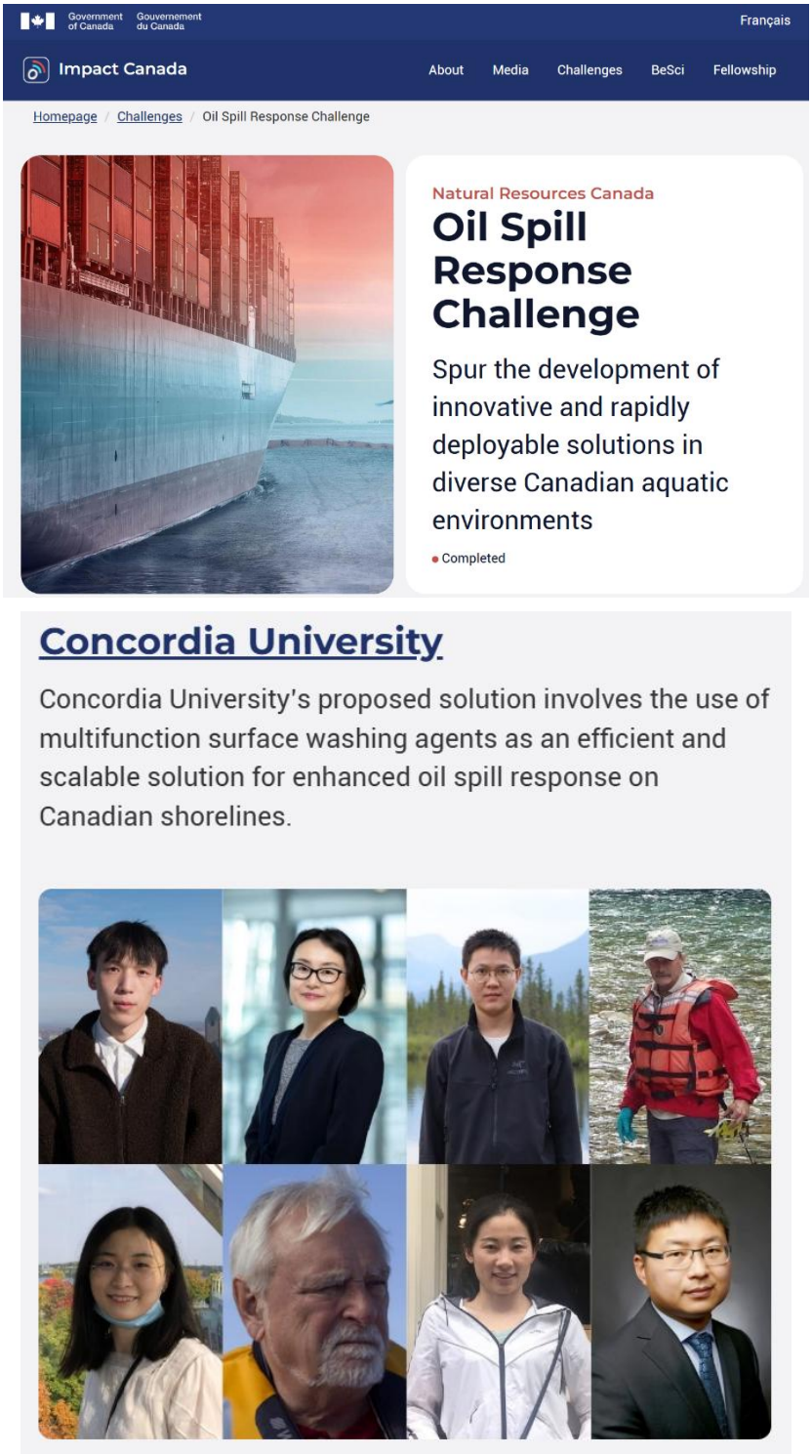


Figure 5. Screenshot from *Impact Canada* highlighting Concordia University's recognition in the Oil Spill Response Challenge. The team, led by Dr. Chunjiang An, proposed multifunction surface washing agents as an efficient and scalable solution for oil spill response on Canadian shorelines. **Huifang Bi (bottom row, third from left)** is actively involved in the project.