CURRICULUM VITAE

January 2024

Dr. Feiyue (Fei) Wang
Professor & Canada Research Chair (Tier 1)
Center for Earth Observation Science (CEOS)
Department of Environment and Geography
University of Manitoba
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Publication Profile

Journal papers: 158
h-index: 50 *(Scopus)*
Book chapters/reports: 20
Total citation: 7,921 *(Scopus)*

Research Areas

My research interests are primarily in the areas of environmental fate and effects of legacy and emerging contaminants, especially in the Arctic. Recent research activities have focussed on cold-temperature chemical and biogeochemical processes in the Arctic sea ice and marine environment, mercury biogeochemistry, marine oil spill response, and the interplay between chemical contamination and climate change.

Education

1995 Ph.D., Environmental Geochemistry, Peking University, Beijing, China
1990 Environmental Chemistry, Wuhan University, Wuhan, China

Professional Experience

2022 – present: Associate Dean (Research & Innovation), Clayton H. Riddell Faculty of Environment, Earth, and Resources, University of Manitoba, Winnipeg, MB
2018 – present: Honorary Professor, Aarhus University, Aarhus, Denmark
2016 – present: Canada Research Chair (Tier 1), University of Manitoba, Winnipeg, MB
2009 – present: Professor, University of Manitoba, Winnipeg, MB
2023 – 2023: Visiting Scholar, Ca'Foscari University of Venice, Venice, Italy
2018: Visiting Professor, Institute of Geochemistry, Chinese Academy of Sciences, Guiyang, China
2018: Visiting Professor, University of Science and Technology of China, Hefei, China
2010: Visiting Professor, Harvard University, Cambridge, MA, USA
2010: Visiting Professor, Griffith University, Gold Coast, Australia
2005: Visiting Professor, Peking University, Beijing, China
2005: Visiting Professor, Hong Kong Polytechnic University, Hong Kong
2004 – 2009: Associate Professor, University of Manitoba, Winnipeg, MB
2000 – 2004: Assistant Professor, University of Manitoba, Winnipeg, MB
1998 – 2000 NSERC Industrial Research Fellow (IRF), EVS Environment Consultants, North Vancouver, BC
1996 – 1998: Postdoctoral Research Fellow, INRS-Eau, Sainte-Foy, QC
1995 – 1996: Postdoctoral Research Fellow, Chinese Academy of Science, Beijing, China

Honours and Awards

2016 – present: Canada Research Chair (Tier 1) in Arctic Environmental Chemistry
2021: Canadian Institute of Chemistry – Environment Division Research and Development Dima Award
2016: Stairs Lecture in Chemistry, Trent University
2010: Sir Allan Sewell Visiting Fellow, Griffith University, Australia.
2006: K.C. Wang Lectureship Award, Chinese Academy of Sciences (Beijing, China) and K.C. Wang Education Foundation (Hong Kong, China).
1996: Outstanding Ph.D. Thesis Award, Peking University, China.

Leadership Roles

2022 – present: Associate Dean (Research & Innovation), Clayton H. Riddell Faculty of Environment, Earth, and Resources, University of Manitoba, Winnipeg, MB
2022 – present: Project Lead, Churchill Marine Observatory (CMO)
2020 – present: Lead Scientist, MPRI Offshore Burn Experiment (MOBE)
2019 – present: Chapter Lead, Arctic Monitoring and Assessment Program (AMAP)'s 2021 *Arctic Mercury Assessment*
2019 – present: Canadian Representative, the East Greenland Ice-core Project (EastGRIP)
2018 – present: Program Area Lead, In Situ Burning, Multi-Partnership Oil Research Initiative (MPRI)
2017 – present: Project Coordination Group Member and Chapter Lead, United Nations Environment's 2018 *Global Mercury Assessment*
2017 – present: Chief Scientist, Ocean-Sea-Ice-Mesocosm (OSIM) of the Churchill Marine Observatory (CMO)
2012 – present: Chief Scientist, Sea-ice Environmental Research Facility (SERF)
2002 – present: Director, Ultra-Clean Trace Elements Laboratory (UCTEL)
2019 – 2020: Environment Division Conference Chair, Chemical Institute of Canada (CIC)
2019: Scientific Committee Co-Chair, International Glaciological Society (IGS) Sea Ice Symposium, Winnipeg, Canada
2018 – 2019: Chair, Natural Sciences and Engineering Review Committee for the New Investigators Program, Research Manitoba
2015: Chief Scientist, Scientific Expedition to Villum Research Station, Station Nord, Greenland
2014 – 2017: Chair, Chemical Institute of Canada (CIC) – Environment Division

Editorial Services

2019 – 2022: Editorial Board Member, *Environmental Research* (Elsevier)
2019 – 2020: Associate Chief Editor & Scientific Editor, Special Issues of *Annals of Glaciology* (Volume 61, Issues 82 & 83, 2020)
2011 – 2013: Editorial Board Member, *Environmental Chemistry and Toxicology*

Other Professional Activities

2022 – present: Member, Geosciences Evaluation Group for Discover Grants, Natural Sciences and Engineering Research Council of Canada (NSERC)
2022 – present: Member, Advisory Board, Atmosphere-Related Research in Canadian Universities (ARRCU)
2020 – present: Member, National Research Vessel Task Team
2013 – present: Member, Science Coordination Board, Villum Research Station, Aarhus University, Denmark
2011 – present: Key National Expert (Canada), Arctic Monitoring and Assessment Program (AMAP) Mercury Experts Group
2015 – 2021: Member, Research Advisory Committee, Research Manitoba, Government of Manitoba
2016 – 2020: Natural Sciences and Engineering Research Council (NSERC) Ship Time Allocation Committee
2012 – 2020: Executive Board, Chemical Institute of Canada (CIC) – Environment Division
2012 – 2014: Ontario Large Infrastructure Review Panel, Government of Ontario

Collaborative Training and Capacity Building

2019 – present: Iceland: Icelandic Meteorological Office
2019 – present: Mexico: Universidad de Guanajuato & Universidad Autónoma de San Luis Potosí
2013 – present: Costa Rica: Universidad Nacional; Sistema Nacional de Areas de Conservacion
2005 – present: China: Chinese Academy of Sciences (Beijing, Guiyang, Lanzhou); University of Science and Technology of China
2004 – present: Indigenous communities in Manitoba (Churchill, Nelson House), Ontario (Grassy Narrows, Eagle Lake, Shoal Lake), Nunavut (Rankin Inlet), and Northwest Territories (Inuvik, Sachs Harbour)
2017 – 2018: Peru: Universidad Nacional Agraria La Molina
2010 – 2012: Ecuador: Instituto Nacional de Meteorología e Hidrología; Galápagos National Park

Major Research Funding as the Principal Investigator (PI)

2023 – 2030: Canada Research Chair (Tier 1) in Arctic Environmental Chemistry, *$1.4M*
2022 – 2027: NSERC Discovery Grant (DG) & Northern Supplements: Cryoreactions and Arctic marine cryospheric chemistry, *$546K*
2022 – 2026: DFO Ecosystems and Oceans Science Contribution Framework: MPRI Offshore Burn Experiment (MOBE), *$5M*
2016 – 2023: Canada Research Chair (Tier 1) in Arctic Environmental Chemistry, *$1.4M*
2018 – 2022: DFO Multi-Partnership Research Program, *$8.0M*
2016 – 2022: NSERC Discovery Grant (DG) & Northern Supplements: Arctic marine cryospheric chemistry, *$504K*
2018 – 2021: Indigenous Services Canada First Nations Environmental Health Program, *$60K*
2016 – 2019: NSERC Discovery Accelerator: Arctic marine cryospheric chemistry, *$120K*
2016: NSERC RTI: A solar simulator for Arctic sea ice research, *$147K*
2011 – 2016: NSERC DG: Cryospheric chemistry of mercury in sea ice, *$275K*
2006 – 2011: NSERC DG: Metal-thiol complexes in the aquatic environment, *$212K*
2008 – 2010: NSERC Strategic Grant: TiO_2 as a getter for uranium from uranium-contaminated sites, *$200K*
2008: Canada Foundation for Innovation (CFI): Sea-ice Environmental Research Facility, *$973K*
2001 – 2006: NSERC DG: Metal-sulfide interactions, *$160K*
2003: CFI: Ultra-Clean Trace Elements Laboratory, *$650K*

Major Research Funding as a Participant

2024 – 2027: University of Manitoba Ignite program: Arctic Community Connectivity for Equity, Sustainability, and Service (ACCESS), P. Ferguson (PI), *$1.05M*
2019 – 2025: NSERC CREATE training program: Persistent, emerging, and oil pollution in cold marine environments (PEOPLE), B. Chen (PI), *$1.65M*
2019 – 2023: Networks of Centres of Excellence (NCE): ArcticNet, P. Archambault & J. Dawson (co-PIs), *$32.5M*
2015 – 2023: CFI: Churchill Marine Observatory, D. Barber (PI), *$44M*
2016 – 2020: NSERC Collaborative Research and Development (CRD): Mercury - Solving emerging environmental challenges of the hydroelectric sector, M. Amyot (PI), *$560K*
2016 – 2019: European Commission Horizon 2020: GRACE, K. Jörgensen (PI), *$7.8M*
2015 – 2019: NSERC CRD: BaySys, D. Barber (PI), *$9.1M*
2013 – 2018: NSERC: Canadian Arctic GEOTRACES, R. Francois (PI), *$4.6M*
2004 – 2018: Networks of Centres of Excellence (NCE): ArcticNet, L. Fortier (PI), *$90M*
2007 – 2010: International Polar Year: Circumpolar Flaw Lead System Study, D. Barber (PI), *$7M*
2004 – 2009: NSERC Network: Metals in the Human Environment (MITHE), B. Hale (PI), *$5M*
2007: CFI: Scientific upgrade of the CCGS Amundsen, L. Fortier (PI), *$27M*
2001 – 2006: NSERC Network: Collaborative Mercury Research Network (COMERN), M. Lucotte (PI), *$5M*
2001 – 2004: NSERC Network: Metals in the Environment (MITE), P. Campbell (PI), *$5M*

Teaching

Current:

Aquatic Chemistry (ENVR4550/CHEM4550)
Chemical Oceanography (GEOG4670/7010)
Oil Spill Research and Response (*Virtual School*)

Past:

Environmental Chemistry (ENVR2550/CHEM2550), with lab
Environmental and Instrumental Analysis (ENVR3550/CHEM3590), with lab
Materials Characterization (CHEM 4802/GEOL4280/ECE4860/GEOL7790; team teaching)
Chemical Speciation and Bioavailability (CHEM7520)
Advanced Techniques for Chemical Speciation (CHEM7700)

HQP Training

Technicians *(years in training): Current position*

Cyril Fredlund (2020 – present)
David Binne (2014 – present)
Debbie Armstrong (2005 – present)
Leonard McPherson (2022 – 2022)
Lisa Oswald (2020 – 2022): Technician, University of Manitoba, Winnipeg
Evelyn Ang (2019 – 2021)

Postdoctoral research fellows and associates *(years in training): Current position*

Dr. Zhiyuan Gao (2023 – present)
Dr. Richard Oliveira (2022 – present)
Dr. Nasima Chorfa (2019 – present)
Dr. Weijia Li (2022 – 2023)
Dr. Ashish Sarker (2018 – 2022)
Dr. Nicolas-Xavier Geilfus (2016 – 2020): Research Associate, University of Manitoba, Winnipeg
Dr. Kathleen Munson (2015 – 2020): Staff Scientist, Pacific Northwest National Laboratory, Sequim, USA
Dr. Kang Wang (2019 – 2019): PDF, Florida International University, Miami, USA
Dr. Yubin Hu (2014 – 2016): Associate Professor, Shandong University, Qingdao, China
Dr. Alex Hare (2011 – 2014): Biogeochemist, Hakai Institute, Heriot Bay, BC
Dr. Marcos Lemes (2010 – 2012): Research Associate, University of Manitoba, Winnipeg
Dr. Ren Zhang (2008 – 2010): Instrumentation Specialist, Baylor University, Waco, Texas, USA
Dr. Weijia Li (2003 – 2004): Research Fellow, National University of Singapore, Singapore
Dr. Jinzhong Zhang (2002 – 2003): Professor, Southwest University, Chongqing, China

Ph.D. students *(years in training): Current position*

Bright Birikorang (2024 – present)
Brock Edwards (2019 – present)
Katarzyna Polcwiartek (2017 – present)
Kedong Zhang (2017 – present)
Jeff Gao (2017 – 2023)
Heather Kyle (2017 – 2021; withdrawn)
Kang Wang (2012 – 2019): PDF, Florida International University, Miami, USA
Jiang Liu (2016 – 2018): PDF, Institute of Geochemistry, Chinese Academy of Sciences, Guiyang, China
Mohammad Khan (2008 – 2010): Assistant Professor, Jubail University College, Jubail, Saudi Arabia
Alex Hare (2006 – 2010): Research Scientist, Hakai Institute, Calvert Island, BC
Jesse Carrie (2006 – 2010): Research Scientist, Canadian Nuclear Laboratories, Chalk River, ON
Marcos Lemes (2004 – 2010): Research Associate, University of Manitoba, Winnipeg
Mark Loewen (2004 – 2008): Research Associate, University of Manitoba, Winnipeg

M.Sc. students *(years in training): Current position*

Joel Kroecker (2021 – 2023): Environmental Scientist, KGS, Winnipeg
Ainsleigh Loria (2018 – 2021): Environmental Scientist, KGS, Winnipeg
Neal Bailey (2018 – 2021): PhD student, Southern Cross University, Lismore, Australia
Nolan Snyder (2017 – 2021): Application Chemist, Waters Corp., Cincinnati, USA
Lauren Timlick (2017–2020): Research Scientist, IISD Experimental Lakes Area, Winnipeg
James Singer (2016 – 2019): Research Scientist, Canadian Grain Commission, Winnipeg
Skye Kushner (2016 – 2018): PhD Student, University of Alaska, Fairbanks, USA
Ashley Elliott (2014 – 2016): Research Chemist, Department of Fisheries and Oceans, Winnipeg
Wen Xu (2013 – 2015): Laboratory Manager, Western University, London, ON
Breanne Reinfort (2008 – 2015): Instructor, FortWhyte Alive, Winnipeg
Sarah Beattie (2011 – 2014): Resource Management Technician, Parks Canada, Yellowknife, NWT
Alexis Burt (2008 – 2012): Aquatic Science Technician, Department of Fisheries and Oceans, Winnipeg

Amanda Chaulk (2008 – 2011): Communications & Research Administration Coordinator, Aurora Research Institute, Inuvik, NWT
Jeffery Latonas (2008 – 2010): Environmental & Regulatory Coordinator, Long Run Exploration, Calgary, AB
Akef Afaneh (2007 – 2009): Assistant Professor, Balqa Applied University, As-Salt, Jordan
Xiaoxi Hu (2007 – 2009): Geochemist, Flett Research Ltd., Winnipeg
Dan Leitch (2004 – 2007): Environmental Scientist, KGS Group, Winnipeg
Bryan Page (2003 – 2005): Research Biologist, Ducks Unlimited Canada, Winnipeg
Katrina Sukola (2001 – 2003): Water Quality & Water Resources Specialist, ICF, Seattle, USA

Publications

Peer-reviewed journal articles:

158. Edwards B.A., Pfeffer M.A., Ilyinskaya E., Kleine-Marshall B.I., Mandon C.L., Cotterill A., Aiuppa A., Outridge P.M., **Wang F.**, 2024. Exceptionally low mercury concentrations and fluxes from the 2021 and 2022 eruptions of Fagradalsfjall volcano, Iceland. *Sci. Total Environ.* (in press).
157. Schindler, M., Loria A., Ramos-Arroyoc Y.R., **Wang F.** 2024. Nano-mineral assemblages in mercury- and silver-contaminated soils: records of sequestration, transformation, and release of mercury- and silver-bearing nanoparticles. *Environ. Sci. Process. Impacts* (in press).
156. Jørgensen C.J., Søndergaard J., Larsen M.M., Kjeldsen K.K., Rosa D., Sapper, S.E., Heimbürger-Boavida L.E., Kohler S.G., **Wang F.**, Gao Z., Armstrong D., Albers C.N. 2024. Large mercury release from the Greenland Ice Sheet invalidated. *Science Adv.* 10, eadi7760, doi: 10.1126/sciadv.adi7760.
155. Huang S.J., **Wang F.**, Yuan T.F., Song Z.C., Wu P.P., Zhang Y. 2023. Modeling the mercury cycle in the sea ice environment: A buffer between the polar atmosphere and ocean. *Environ. Sci. Technol.* 2023, doi: 10.1021/acs.est.3c05080
154. Rodrigues C.W., Armstrong D., **Wang F.**, and Roth J.D. 2024. Tissue composition and storage duration affect the usefulness of generic wet-to-dry mass conversion factors in toxicology studies. *Environ. Res.*, doi: 10.1016/j.envres.2023.116727
153. Segato D., Saiz-Lopez A., Mahajan A.S., **Wang F.**, Corella J.P., Cuevas C.A., Erhardt T., Jensen C.M., Zeppenfeld C., Kjær H.A., Turetta C., Cairns W.R.L., Barbante C., and Spolaor A. 2023. Arctic mercury flux increased through the Last Glacial Termination with a warming climate. *Nature Geosci.* https://doi.org/10.1038/s41561-023-01172-9
152. Gao Z., Bailey N., and **Wang F.** 2023. Experimental determination of mercury photoreduction rates in cloudwater. *J. Geophys. Res. -Atmos.* 128, e2022JD038183. https://doi.org/10.1029/2022JD038183
151. Edwards B.A., Pfeffer M.A., Jóhannsson Þ., Outridge P.M., and **Wang F.** 2023. An inter-method comparison of mercury measurements in Icelandic volcanic gases. *Appl. Geochem.* 152, 105654. https://doi.org/10.1016/j.apgeochem.2023.105654
150. Rabiei M., Chi G., Potter E.G., Petts D.C., **Wang F.**, and Feng R. 2023. Spatial variations in fluid composition along structures hosting unconformity-related uranium deposits in the Athabasca Basin, Canada: implications for ore-controlling factors. *Miner. Deposita.* https://doi.org/10.1007/s00126-023-01171-1
149. Galloway J., Grasby S.E., **Wang F.**, Hadlari T., Dewing K., Bodin S., and Sanei H. 2023. A mercury and trace element geochemical record across Oceanic Anoxic Event 1b in Arctic Canada. *Palaeogeogr. Palaeoclimatol. Palaeoecol.* 617, 111490. https://doi.org/10.1016/j.palaeo.2023.111490
148. Huang J., Kang S.-C., Yin R.-S., Tang W.-J., Chen S.-Y., Guo J.-M., Zhang Q.-G., Sharma C.M., Li C.-L., Tripathee L., and **Wang F.** 2023. Northward extent of atmospheric mercury transboundary transport to the Himalayas and Tibetan Plateau Region. *Geophys. Res. Lett.* 50, e2022GL100948. https://doi.org/10.1029/2022GL100948
147. Vickers M.L., Jelby M.E., Śliwińska K.K., Percival L.M.E., **Wang F.**, Sanei H., Price G.D., Ullmann C.V., Grasby S.E., Reinhardt L., Mather T.A., Frieling, J., Korte C., Jerrett R.M., Jones, M.T., Midtkandal I., and Galloway J.M. 2023. Volcanism and carbon cycle perturbations in the High Arctic during the Late Jurassic – Early Cretaceous. *Palaeogeogr. Palaeoclimatol. Palaeoecol.* 613, 111412. https://doi.org/10.1016/j.palaeo.2023.111412
146. Wu Q.R., Zhang Y.X., Li P., Fu, X.W., Zhang Q.G., Wang X., Chen L., Wang, S.X., **Wang F.**, and Feng, X.B. 2022. Ecosystem mercury recovery and health benefit under the Minamata Convention in a changing climate. *Rev. Environ. Contam. Toxicol.* 260, 15. https://doi.org/10.1007/s44169-022-00016-8

145. Pyke R., Fortin N., Wasserscheid J., Tremblay J., Schreiber L., Levesque M.-J., Messina-Pacheco S., Whyte L., **Wang F.**, Lee K., Cooper D., and Greer C.W. 2022. Biodegradation potential of residue generated during the in-situ burning of oil in the marine environment. *J. Hazard. Mater.* 130439. https://doi.org/10.1016/j.jhazmat.2022.130439
144. Wang X., Yuan W., Lin C.-J., Wang D.Y., Luo J., Xia J.C., Zhang W., **Wang F.**, and Feng X. 2022. Root uptake dominates mercury accumulation in permafrost plants of Qinghai-Tibet Plateau. *Commun. Earth Environ.* 3, 287. https://doi.org/10.1038/s43247-022-00619-y
143. Farahani M., Abdrabou M., Zhang H., Zhu J., **Wang F.**, Lee K., and Zheng Y. 2022. In situ burning of crude oils using iron oxide nanoparticles as additives. *Fuel* 330, 125568. https://doi.org/10.1016/j.fuel.2022.125568
142. Sun G.-Y., Feng X.-B., Yin R.-S., **Wang F.**, Lin C.-J., Li K., and Sommar J. 2022. Dissociation of mercuric oxides drives anomalous isotope fractionation during net photooxidation of mercury vapor in air. *Environ. Sci. Technol.* 56, 13428–13438. https://doi.org/10.1021/acs.est.2c02722
141. Jonsson S., Nerentorp Mastromonaco M., **Wang F.**, Bravo A.G., Cairns W.R.L., Chételat J., Douglas T.A., Lescord G., Ukonmaanaho L., and Heimbürger-Boavida L.-E., 2022. Arctic methylmercury cycling. *Sci. Total Environ.* doi: 10.1016/j.scitotenv.2022.157445.
140. Gao Z., Zheng W., Li Y.B., Liu Y.R., Wu M.J., Li S.Y., Li P., Liu G.L., Fu X.W., Wang S.X., **Wang F.**, Cai Y., Feng X., Gu B., Zhong H., and Yin Y.G. 2022. Mercury transformation processes in nature: Critical knowledge gaps and perspectives for moving forward. *J. Environ. Sci.* doi: 10.1016/j.jes.2022.07.013.
139. Loria A., Ramos-Arroyo Y.R., Rocha D., Cruz-Jiménez G., Razo Soto I., Alfaro de la Torre M.C., Armstrong D., Guerrero S., and **Wang F.** 2022. Widespread elevated concentrations of gaseous elemental mercury in Guanajuato, Mexico, centuries after historical silver refining by mercury amalgamation. *Sci. Total Environ.* 843, 157093. doi: 10.1016/j.scitotenv.2022.157093.
138. Huang J., Kang, S., Wang L., Liu K., Ram K., Sillanpää M., Tang W., Guo J., Zhang Q., Ma M., Tripathee L., and **Wang F.** 2022. Anthropogenic and natural drivers of seesaw-like spatial patterns in precipitation mercury over western China. *Environ. Pollut.* 307, 119525. doi: 10.1016/j.envpol.2022.119525
137. Dietz R., Letcher R.J., Aars J., Andersen, M., Boltunov A., Born E.W., Ciesielski T.M., Das K., Dastnai S., Derocher A.E., Desforges J.-P., Eulaers I., Ferguson S., Hallanger I., Heide-Jørgensen M.P., Heimbürger-Boavida L.-E., Hoekstra P.F., Jenssen B.M., Kohler S.G., Larsen M.M., Lindstrøm U., Lippold A., Morris A., Nabe-Nielsen J., Nielsen N.H., Peacock E.,; Pinzone M., Rigét F.F., Rosing-Asvid A., Routti H., Siebert U., Stenson G., Stern G., Strand J., Søndergaard J., Treu G., Víkingsson G.A., **Wang F.**, Welker J.M., Wiig Ø., Wilson S.J., Sonne C., 2022. A risk assessment review of mercury exposure in Arctic marine and terrestrial mammals. *Sci. Total Environ.,* 829, 154445, doi: 10.1016/ j.scitotenv.2022.154445.
136. Chételat J., McKinney M.A., Amyot M., Dastoor A., Douglas T.A., Lars-Eric Heimbürger-Boavida, Kirk J., Kahilainen K.K., Outridge P., Pelletier N., Skov H., St. Pierre K., Vuorenmaa J., **Wang F.** 2022. Climate change and mercury in the Arctic: Abiotic interactions. *Sci. Total Environ.* 824, 153715, doi: 10.1016/j.scitotenv.2022.153715.
135. Gao Z., Geilfus N.-X., Saiz-Lopez A., and **Wang F.** 2022. Reproducing Arctic springtime tropospheric ozone and mercury depletion events in an outdoor mesocosm sea ice facility. *Atmos. Chem. Phys.* 22, 1811–1824, doi: 10.5194/acp-22-1811-2022.
134. Geilfus N.X., Munson K.M., Lemes M., **Wang F.**, Tison J.L., and Rysgaard S. 2021. Meteoric water contribution to sea ice formation and its control of the surface water carbonate cycle on the Wandel Sea shelf, northeastern Greenland. *Elementa* 9, 00004, https://doi.org/10.1525/elementa.2021.00004.
133. Geilfus N.-X., Munson K.M., Eronen-Rasimus E., Kaartokallio H., Lemes M., Wang F., Rysgaard S., and Delille B. 2021. Landfast sea ice in the Bothnian Bay (Baltic Sea) as a temporary storage compartment for greenhouse gases. *Elementa* 9, 00028, doi: 10.1525/elementa.2021.00028.
132. Sun G.-Y., Wu Y.-J., Feng X.-B., Wu X., Li X.-Y., Deng Q.-W., Wang F., and Fu X.-W. 2021. Precise analysis of antimony isotopic composition in geochemical materials by MC-ICP-MS. *Chem. Geol.* 582, 120459, doi: 10.1016/j.chemgeo.2021.120459.
131. Sanei H., Outridge P.M., Oguri K., Stern G.A., Thamdrup B., Wenzhöfer F., **Wang F.**, and Glud, R.N. 2021. High mercury accumulation in deep-ocean hadal sediments. *Sci. Rep.* 11, 10970, doi: 10.1038/s41598-021-90459-1.

130. Zhang Y., Song Z., Huang S., Zhang P., Peng Y., Wu P., Gu J., Dutkiewicz S., Zhang H., Wu S., **Wang F.**, Chen L., Wang S., and Li P. 2021. Global health effects of future atmospheric mercury emissions. *Nature Comm.* 12, 3035, doi: 10.1038/s41467-021-23391-7.
129. Huang J., Hills J., Teasdale P.R., Panther J.G., **Wang F.**, Welsh D.T. 2021. Evaluation of the Chelex-DGT technique for the measurement of rare earth elements in the porewater of estuarine and marine sediments. *Talanta*. 230, 122315, doi: 10.1016/j.talanta.2021.122315.
128. Edwards B.A., Kushner D.S., Outridge P.M., and **Wang F.** 2021. Fifty years of volcanic mercury emission research: knowledge gaps and future directions. *Sci. Total Environ.* 757, 143800.
127. Saiz-Lopez A., Travnikov O., Sonke K.E., Thackray C.P., Jacob D.J., Carmona-García J., Francés-Monerris A., Roca-Sanjuán D., Ulises Acuña A., Dávalos J.Z., Cuevas C.A., Jiskra M., **Wang F.**, Bieser J., Plane J.M.C., and Francisco J.S. 2020. New photochemistry of oxidized Hg(I) and Hg(II) species suggests missing mercury oxidation in the troposphere. *Proc. Natl. Acad. Sci. U.S.A.* doi: 10.1073/pnas.1922486117.
126. Wang X., Yuan W., Lin C.-J., Luo J., **Wang F.**, Feng X.B., Fu X.W., and Liu C. 2020. Underestimated sink of atmospheric mercury in a deglaciated forest chronosequence. *Environ. Sci. Technol.* 54, 8083–8093.
125. Hu Y.-B. and **Wang F.** 2020. Effect of ikaite precipitation on phosphate removal in sea ice. *Polar Res.* 39, 3413.
124. Huang J., Kang S.C., Yin R.S., Lin M., Guo J.M., Ram K., Li C.L., Sharma C., Tripathee L., Sun S.W., and **Wang F.** 2020. Decoupling natural and anthropogenic mercury and lead transport from South Asia to the Himalayas. *Environ. Sci. Technol.* 54, 5429-5436.
123. Hudelson K.E., Drevnick P.E., **Wang F.**, Armstrong D., and Fisk A.T. 2020. Mercury methylation and demethylation potentials in Arctic lake sediments. *Chemosphere* 248, 126001.
122. Munson K.M., Latonas J., Xu W., Elliot A., Armstrong D.A., Stern, G.A, and **Wang F.** 2020. Elemental mercury in the marine boundary layer of North America: temporal and spatial patterns. *Mar. Chem.* 220, 103755.
121. Wang K., Munson K.M., Armstrong D., Macdonald R.W., and **Wang F.** 2020. Determining seawater mercury methylation and demethylation rates by the seawater incubation approach: a critique. *Mar. Chem.* 219, 103753.
120. Wang X., Luo J., Yuan W., Lin C.-J., **Wang F.**, Liu C., Wang G., and Feng X. 2020. Global warming accelerates uptake of atmospheric mercury in regions experiencing glacier retreat. *PNAS* 117, 2049–2055.
119. Jørgensen K.S., Kreutzer A., Lehtonen K.K., Kankaanpää H., Rytkönen J., Wegeberg S., Gustavson K., Fritt-Rasmussen J., Truu J., Kõuts T., Lilover, M.J., Seiler T.-B., Hollert H., Johann S., Marigómez I., Soto M., Lekube X., Jenssen B.M., Ciesielski T., Wilms L.B., Högström R., Pirneskoski M., Virtanen S., Forsman B., Petrich C., Phuong -Dang N., **Wang F.** 2019. The EU Horizon 2020 project GRACE – Integrated oil spill response actions and environmental effects. *Environ. Sci. Eur.* 31, 44, doi: 10.1186/s12302-019-0227-8.
118. Geilfus N.-X., Munson K.M., Sousa J., Germanov Y., Bhugaloo S., Babb D., and **Wang F.** 2019. Distribution and impacts of microplastic incorporation within sea ice. *Mar. Pollut. Bull.* 145, 463–473, doi: 10.1016/j.marpolbul.2019.06.029.
117. Huang J., Kang S., Ma M., Guo J., Cong Z., Dong Z., Yin R., Xu J., Tripathee L., Ram K., and **Wang F.** 2019. Accumulation of atmospheric mercury in glacier cryoconite over Western China. *Environ. Sci. Technol.* 53, 6632–6639, doi: 10.1021/acs.est.8b06575.
116. **Wang F.**, Outridge P.M., Feng, X.-B., Meng B., Heimbürger-Boavida L.-E., and Mason R.P. 2019. How closely do mercury trends in fish and other aquatic wildlife track those in the atmosphere? – Implications for evaluating the effectiveness of the Minamata Convention. *Sci. Total Environ.* 674, 58–70.
115. Asaduzzaman A., Riccardi D.; Afaneh A., Cooper S., Smith J., **Wang F.**, Parks J., and Schreckenbach G. 2019. Environmental mercury chemistry – In silico. *Acc. Chem. Res.* 52, 379–388, doi: 10.1021/acs.accounts.8b00454.
114. Saiz-Lopez A., Sitkiewicz S., Roca-Sanjuan D., Oliva-Enrich J., Davalos J., Notario R., Jiskra M., Xu Y., **Wang F.**, Thackray C., Sunderland E., Jacob D., Travnikov O., Cuevas C., Acuña A., Rivero D., Plane J., Kinnison D., and Sonke J. 2018. Photoreduction of gaseous oxidized mercury changes global atmospheric mercury speciation, transport and deposition. *Nature Comm.* 9, 4796, doi: 10.1038/s41467-018-07075-3.
113. Bailey N., Papakyriakou T., Bartels C., **Wang F.** 2018. Henry's Law constant for CO_2 in aqueous sodium chloride solutions at 1 atm and sub-zero (Celsius) temperatures. *Mar. Chem.* 207, 26–32. doi: 10.1016/j.marchem.2018.10.003.

112. Outridge P., Mason R., **Wang F.**, Guerrero S., and Heimburger L.-E. 2018. Updated global and oceanic mercury budgets for the United Nations Global Mercury Assessment 2018. *Environ. Sci. Technol.* 52, 11466–11477. doi: 10.1021/acs.est.8b01246.
111. Wang K., Munson, K.M., Beaupré-Laperrière A., Mucci A., Macdonald R.W., and **Wang F.** 2018. Subsurface seawater methylmercury maximum explains biotic mercury concentrations in the Canadian Arctic. *Sci. Rep.* 8:14465, doi: 10.1038/s41598-018-32760-0.
110. Geilfus N.-X., Pind M., Else B., Galley R.J., Miller L.A., Thomas H., Gosselin M., Rysgaard S., **Wang F.**, and Papakyriakou T.N. 2018. Spatial and temporal variability of seawater pCO2 within the Canadian Arctic Archipelago and Baffin Bay during the summer and autumn 2011. *Cont. Shelf Res.* 156, 1–10. doi.org/10.1016/j.csr.2018.01.006
109. Hu Y.-B., **Wang F.**, Boone W., Barber D., and Rysgaard S. 2017. Assessment and improvement of the sea ice processing for dissolved inorganic carbon analysis. *Limnol. Oceanogr. Methods* 16, 83–91, doi: 10.1002/lom3.10229.
108. Liu J., Jiang T., **Wang F.**, Zhang J.-Z., Wang D.-Y., Huang R., Yin D.-L., Liu Z.-Y., and Wang J.Z. 2017. Inorganic sulfur and mercury speciation in the water level fluctuation zone of the Three Gorges Reservoir, China: The role of inorganic reduced sulfur on mercury methylation. *Environ. Pollut.* 237, 1112–1123, doi.org/10.1016/j.envpol.2017.11.045
107. Wang J.C., Xie Z.Q., **Wang F.**, and Kang H. 2017. Gaseous elemental mercury in the marine boundary layer and its air-sea flux in the Southern Ocean in austral summer. *Sci. Total Environ.* 603–604, 510–518. doi:10.1016/j.scitotenv.2017.06.120
106. Kauko H.A., Taskjelle T., Assmy P., Pavlov A.K., Mundy C.J., Duarte P., Méndez M.F., Olsen L.M., Hudson S.R., Johnsen G., Elliott A., **Wang F.**, and Granskog M.A. 2017. Windows in Arctic sea ice: light transmission and ice algae in a refrozen lead. *J. Geophys. Res. Biogeosci.* 122, 1486–1505. http://dx.doi.org/ 10.1002/2016JG003626
105. Corella J.P., Valero-Garcés B.L., **Wang F.**, Martínez-Cortizas A., Cuevas C.A., and Saiz-Lopez A. 2017. 700 years reconstruction of mercury and lead atmospheric deposition in the Pyrenees (NE Spain). *Atmos. Environ.* 155, 97–107.
104. Hong Q.-Q., Xie Z.-Q., Liu C., **Wang F.**, Xie P.-H., Kang H., Xu J., Wang J.-C., Wu F.-C., He P.-Z., Mou F.-S., Fan S.-D., Dong Y.-S., Zhan H.-C., Yu X.-W., Chi X.-Y., Liu J.-G., 2016. Speciated atmospheric mercury on haze and non-haze days in an Inland city in China. *Atmos. Chem. Phys.* 16, 13807–13821, doi:10.5194/acp-16-13807-2016.
103. Xu W., Tenuta M., and **Wang F.** 2016. Bromide and chloride distribution across the snow-sea ice-ocean interface: A comparative study between an Arctic coastal marine site and an experimental sea ice mesocosm. *J. Geophys. Res. Oceans.* doi:10.1002/2015JC011409 (access).
102. Kang S., Huang J., **Wang F.**, Zhang Q., Zhang Y., Li C., Wang L., Chen P., Sharma C., Li Q., Sillanpää M., Hou J., Xu B., and Guo J., 2016. Atmospheric mercury depositional chronology reconstructed from lake sediment and ice cores in the Himalayas and Tibetan Plateau. *Environ. Sci. Technol.*, 50, 2859–2869.
101. Elliott A., Mundy C.J., Gosselin M., Poulin M., Campbell K., and **Wang F.** 2015. Spring production of mycosporine-like amino acids and other UV-absorbing compounds in sea ice associated algae communities in the Canadian Arctic. *Mar. Ecol. Prog. Ser.* 541, 91-104, doi: 10.3354/meps11540.
100. Else B.G.T., Rysgaard S., Attard K., Campbell K., Crabeck O., Galley R.J., Geilfus N.-X., Lemes M., Lueck R., Papakyriakou T., and **Wang F.** 2015. Under-ice eddy covariance flux measurements of heat, salt, momentum, and dissolved oxygen in an artificial sea ice pool. *Cold Regions Sci. Technol.* 119, 158-169, doi:10.1016/j.coldregions.2015.06.018. (access)
99. Kang S.C., **Wang F.**, Morgenstern U., Zhang Y.L., Grigholm B., Kaspari S., Schwikowski M., Ren J.W., Yao T.D., Qin D.H., and Mayewski P.A. 2015. Dramatic loss of glacier accumulation area on the Tibetan Plateau revealed by ice core tritium and mercury records. *Cryosphere*, 9, 1213-1222.
98. Slemr F., Angot H., Dommergue A., Magand O., Barret M., Weigelt A., Ebinghaus R., Brunke E.-G., Pfaffhuber K., Edwards G., Howard D., Powell J., Keywood M., and **Wang F.** 2015. Comparison of mercury concentrations measured at several sites in the Southern Hemisphere. *Atmos. Chem. Phys.* 15, 3125-3133.
97. Davoren G.K., Woloschiniwsky C., Halden N.M., and **Wang F.** 2015. Does otolith chemistry indicate the natal habitat of Newfoundland capelin *Mallotus villosus*? *J. Exp. Mar. Biol. Ecol.* 464, 88-95.

96. Afaneh A., Schreckenbach G., and **Wang F.** 2014. Theoretical study of the formation of mercury (Hg^{2+}) complexes in solution using an explicit solvation shell in implicit solvent calculations. *J. Phys. Chem.* 118, 11271–11283, DOI: 10.1021/jp5045089
95. Rysgaard S., **Wang F.**, Galley R.J., Grimm R., Notz D., Lemes M., Geilfus N.X., Chaulk A., Hare A.A., Crabeck O., Else B.G.T., Campbell K., Sørensen L.L., Sievers J., and Papakyriakou T. 2014. Temporal dynamics of ikaite in experimental sea ice. *Cryosphere* 8, 1469-1478. (pdf)
94. Pućko M., Burt A., Walkusz W., **Wang F.**, Macdonald R.W., Rysgaard S., Barber D.G., Tremblay J.-É., and Stern G.A., 2014. Transformation of mercury at the bottom of the Arctic food web: an overlooked puzzle in the mercury exposure narrative. *Environ. Sci. Technol.* 48, 7280-7288, doi:10.1021/es404851b.
93. Beattie S., Armstrong D., Chaulk A., Comte J., Gosselin M., and **Wang F.** 2014. Total and methylated mercury in Arctic multiyear sea ice. *Environ. Sci. Technol.* 48, 5575-5582, doi:10.1021/es5008033.
92. Hare A.A., Kuzyk Z.Z., Macdonald R.W., Sanei H., Barber D., Stern G.A., and **Wang F.** 2014. Characterization of sedimentary organic matter in recent marine sediments from Hudson Bay, Canada, by Rock Eval pyrolysis. *Org. Geochem.* 68, 52-60.
91. **Wang F.**, Saiz-Lopez A., Mahajan A.S., Gómez Martín, J.C., Armstrong D., Lemes M., Hay T., Prados-Roman C. 2014. Enhanced production of oxidised mercury over the tropical Pacific Ocean: A key missing oxidation pathway. *Atmos. Chem. Phys.* 14, 1323-1335.
90. Geilfus N.-X., Galley R.J., Cooper M., Halden N., Hare A., **Wang F.**, Søgaard D.H., and Rysgaard S. 2013. Gypsum crystals observed in experimental and natural sea ice. *Geophys. Res. Lett.* 40, 1-6, doi:10.1002/2013GL058479.
89. Burt A., **Wang F.**, Pućko M., Mundy, C.-J., Gosselin M., Philippe B., Poulin M., Tremblay, J.E., and Stern G.A. 2013. Mercury uptake within an ice algal community during the spring bloom in first-year Arctic sea ice. *J. Geophys. Res. Oceans* 118, doi:10.1002/jgrc.20380.
88. Hare A.A., **Wang F.**, Barber D., Geilfus N.-X., Galley R., and Rysgaard S. 2013. pH evolution in sea ice grown at an outdoor experimental facility. *Mar. Chem.* 154, 46-54.
87. Rysgaard S., Søgaard D.H., Cooper M., Pućko M., Lennert K., Papakyriakou T.N., **Wang F.**, Geilfus N.X., Glud R.N., Ehn J., McGinnnis D.F., Attard K., Sievers J., Deming J.W., and Barber D. 2013. Ikaite crystal distribution in winter sea ice and implications for CO2 system dynamics. *Cryosphere* 7, 707-718.
86. Ostertag S.K., Stern G.A., **Wang F.**, Lemes M., and Chan H.M., 2013. Mercury distribution and speciation in different brain regions of beluga whales (*Delphinapterus leucas*). *Sci. Total Environ.* 456-457, 278-286.
85. Chapman P.M., **Wang F.**, and Caeiro S.S. 2013. Assessing and managing sediment contamination in transitional waters. *Environ. Int.* 55, 71-91.
84. **Wang F.** and Zhang J. 2013. Mercury contamination in aquatic ecosystems under a changing environment: Implications for the Three Gorges Reservoir. *Chin. Sci. Bull.* 58, 141-149.
83. Foster K., Stern G., Pazerniuk M., Hickie B., Walkusz W., **Wang F.**, and Macdonald R. 2012. Mercury biomagnification in marine zooplankton food webs in Hudson Bay. *Environ. Sci. Technol.* 46, 12952–12959. DOI: 10.1021/es303434p.
82. **Wang F**., Macdonald R., Armstrong D., and Stern G. 2012. Total and methylated mercury in the Beaufort Sea: The role of local and recent organic remineralization. *Environ. Sci. Technol.* 46, 11821–11828. DOI: 10.1021/es302882d.
81. Douglas T.A., Loseto L., Macdonald R.W., Outridge P., Dommergue A., Poulain A., Amyot M., Barkay T., Berg T., Chételat J. Constant P., Evans M., Ferrari C., Gantner N, Johnson M.S., Kirk J., Kroer N., Larose C., Lean D., Muir D., Nielsen T.G., Poissant L., Rognerud S., Skov H., Sørensen S., **Wang F.**, and Zdanowicz C.M. 2012. The fate of mercury in Arctic terrestrial and aquatic ecosystems. A review. *Environ. Chem.* 9, 321-355.
80. Hutchins C.M., Panther J.G., Teasdale P.R., **Wang F.**, Stewart R.R., Bennett W.W., and Zhao H. 2012. Evaluation of a titanium dioxide-based DGT technique for measuring inorganic uranium species in fresh and marine waters. *Talanta* 97, 550–556. DOI: 10.1016/j.talanta.2012.05.012.
79. Barber D., Asplin M., Papakyriakou T., Miller L., Else B., Iacozza J., Mundy C., Gosslin M., Asselin N., Ferguson S., Lukovich J., Stern G., Gaden A., Pućko M., Geilfus N.X. and **Wang F.** 2012. Consequences of change and variability in sea ice on marine ecosystem and biogeochemical processes during the 2007–2008 Canadian International Polar Year program. *Climatic Change* 115, 135-159, DOI: 10.1007/s10584-012-0482-9.

78. Zhang Q., Huang J., **Wang F.**, Loewen M., Xu J., Armstrong D., Li C., Zhang Y., and Kang S. 2012. Mercury distribution and deposition in glacier snow over Western China. *Environ. Sci. Technol.* 46, 5404−5413.
77. Carrie J., Stern G., Sanei H., Macdonald R.W., and **Wang F.** 2012. Determination of mercury biogeochemical fluxes in the remote Mackenzie River Basin, northwest Canada, using speciation of sulfur and organic carbon. *Appl. Geochem.* 27, 815-824.
76. Asaduzzaman A., **Wang F.** and Schreckenbach G. 2012. Quantum-chemical Study of the diffusion of Hg(0, I, II) into the Ice(Ih). *J. Phys. Chem.* 116, 5151–5154.
75. Nghiem S.V., Rigor I.G., Richter A., Burrows J.P., Shepson P.B., Bottenheim J., Barber D.G., Steffen A., Latonas J., **Wang F.**, Stern G., Clemente-Colón P., Martin S., Hall D.K., Kaleschke L., Tackett P., Neumann G., and Asplin M.G. 2012. Field and satellite observations of the formation and distribution of Arctic atmospheric bromine above a rejuvenated sea ice cover. *J. Geophys. Res.* doi: 10.1029/2011JD016268.
74. Afaneh A.T., Schreckenbach G. and **Wang F.** 2012. Density functional study of substituted (-SH, -S, -OH, Cl) hydrated ions of Hg^{2+}. *Theor. Chem. Acc.* 131:1174, doi: 10.1007/s00214-012-1174-2.
73. Odoh S.O., Pan Q.-J., Shamov G.A., **Wang F.**, Fayek M., and Schreckenbach G. 2012, Theoretical study of the reduction of uranium (VI) aquo complexes on titania particles and by alcohols. *Chem. Eur. J.* doi: 10.1002/chem.201101197.
72. Stern G.A., Macdonald R.W., Outridge P.M., Wilson S., Chételat J., Cole A., Hintelmann H., Loseto L.L., Steffen A., **Wang F.**, and Zdanowicz C. 2012. How does climate change Influence Arctic mercury? *Sci. Total Environ.* 414, 22-42.
71. Lemes M., **Wang F.**, Stern G.A., Ostertag S., and Chan H.M. 2011. Methylmercury and selenium speciation in different tissues of beluga whales (Delphinapterus leucas) from the Western Canadian Arctic. *Environ. Toxicol. Chem.* 30, 2732-2738.
70. Chaulk A., Stern G.A., Armstrong D., Barber D., and **Wang F.** 2011. Mercury distribution and transport across the ocean-sea ice-atmosphere interface in the Arctic Ocean. *Environ. Sci. Technol.* 45, 1866-1872.
69. Vinceti M., Bonvicini F., Rothman K.J., Vescovi L., and **Wang F.** 2010. The relation between amyotrophic lateral sclerosis and inorganic selenium in drinking water: a population-based case-control study. *Environ. Health* 9:77, doi:10.1186/1476-069X-9-77.
68. Hare A.A., Stern G.A., Kuzyk Z.Z., Macdonald R.W., Johannessen S.C., and **Wang F.** 2010. Natural and anthropogenic mercury distribution in marine sediments from Hudson Bay, Canada. *Environ. Sci. Technol.* 44, 5805-5811.
67. Li L., **Wang F.**, Meng B., Lemes M., Feng X.B., Jiang G.B. 2010. Speciation of methylmercury in rice grown from a mercury mining area. *Environ. Pollut.* 158, 3103-3107.
66. **Wang F.**, Macdonald R.W., Stern G.A., and Outridge P.M. 2010. When noise becomes the signal: Chemical contamination of aquatic ecosystems under a changing climate. *Mar. Pollut. Bull.* 60, 1633-1635.
65. Khan M.A.K. and **Wang F.** 2010. Chemical demethylation of methylmercury by selenoamino acids. *Chem. Res. Toxicol.* 23, 1202-1206.
64. Sanei H., Outridge P.M., Goodarzi F., **Wang F.**, Armstrong D., Warren K., and Fishback L. 2010. Wet deposition mercury fluxes in the Canadian sub-Arctic and southern Alberta, measured using an automated precipitation collector adapted to cold regions. *Atmos. Environ.* 44, 1672-1681.
63. Asaduzzaman A., Khan M.A.K., Schreckenbach G., and **Wang F.** 2010. Computational studies of structural, electronic, spectroscopic and thermodynamic properties of methylmercury-amino acid complexes and their Se analogues. *Inorg. Chem.* 49, 870-878.
62. Carrie J., **Wang F.**, Sanei H., Macdonald R., Outridge P., and Stern G. 2010. Increasing contaminant burdens in an Arctic fish, burbot (*Lota lota*), in a warming climate. *Environ. Sci. Technol.* 44, 316-322.
61. Li M., Kang S., Zhu L., **Wang F.**, Wang J., Yi C., Fang X., Xie M. 2009. On the unusual Holocene carbonate sediment in Lake Nam Co, Central Tibet. *J. Mt. Sci.* 6, 346–353.
60. Khan M.A.K. and **Wang F.** 2009. Reversible dissolution of glutathione-mediated $HgSe_xS_{1-x}$ nanoparticles and possible significance in Hg-Se antagonism. *Chem. Res. Toxicol.* 22, 1827–1832.
59. Hu X., **Wang F.**, and Hanson M. 2009. Selenium concentration, speciation and behavior in surface waters of the Canadian prairies. *Sci. Total Environ.* 407, 5869–5876.
58. Kang S., Li C., **Wang F.**, Zhang Q., and Cong Z. 2009. Total suspended particulate matter and toxic elements indoors during cooking with yak dung. *Atmos. Environ.* 43, 4243-4246.

57. Li C., Kang S., Zhang Q., and **Wang F.** 2009. Rare earth elements in the surface sediments of the Yarlung Tsangbo (Upper Brahmaputra River) sediments, southern Tibetan Plateau. *Quatern. Int.* 208, 151-157.
56. Li W., **Wang F.**, Zhang W., and Evans D. 2009. Measurement of stable and radioactive cesium in natural waters by the diffusive gradients in thin films technique with new selective binding phases. *Anal. Chem.* 81, 5889-5895.
55. Khan M.A.K., Asaduzzaman A. Md., Schreckenbach G., and **Wang F.** 2009. Synthesis, characterization and structures of methylmercury complexes with selenoamino acids. *Dalton Trans.* 5766-5772.
54. Khan M.A.K. and **Wang F.** 2009. Mercury-selenium compounds and their toxicological significance: toward a molecular understanding of the mercury-selenium antagonism. *Environ. Toxicol. Chem.* 28, 1567-1577.
53. **Wang F.** and Tessier A. 2009. Zero-valent sulfur and metal speciation in sediment porewaters of freshwater lakes. *Environ. Sci. Technol.* 43, 7252–7257.
52. Lemes M. and **Wang F.** 2009. Methylmercury speciation in fish muscle by HPLC-ICP-MS following enzymatic hydrolysis. *J. Anal. At. Spectrom.* 24, 663-668.
51. Carrie J., Sanei H., Goodarzi F., Stern G., and **Wang F.** 2009. Characterization of organic matter in surface sediments of the Mackenzie River Basin, Canada. *Int. J. Coal Geol.* 77, 416-423. DOI: 10.1016/j.coal.2008.03.007.
50. Macdonald R.W., **Wang F.**, Stern G., and Outridge P. 2008. The overlooked role of the ocean in mercury cycling in the Arctic. *Mar. Pollut. Bull.* 56, 1963-1965.
49. Hare A., Stern G., Macdonald R.W., Kuzyk Z.Z., and **Wang F.** 2008. Contemporary and preindustrial mass budgets of mercury in the Hudson Bay marine system: The role of sediment recycling. *Sci. Total Environ.* 406, 190-204.
48. Zhang Q., Kang S., **Wang F.**, Li C., and Xu Y. 2008. Major ion geochemistry of Nam Co Lake and its sources, Tibetan Plateau. *Aquat. Geochem.* DOI 10.1007/s10498-008-9039-y.
47. Outridge P.M., Macdonald R.W., **Wang F.**, Stern G.A., and Dastoor A.P. 2008. A mass balance inventory of mercury in the Arctic Ocean. *Environ. Chem.* 5, 89-111. [pdf]
46. Loewen M., Wania F., **Wang F.**, and Tomy G. 2008. Altitudinal transect of atmospheric and aqueous fluorinated organic compounds in western Canada. *Environ. Sci. Technol.* 42, 2374-2379.
45. Loewen M., Kang S., Armstrong D., Zhang Q., Tomy G., and **Wang F.** 2007. Atmospheric transport of mercury to the Tibetan Plateau. *Environ. Sci. Technol.* 41, 7632-7638.
44. Goulet R.R, Holmes J., Page B., Poissant L., Siciliano S.D., Lean D.R.S., **Wang F.**, Amyot M., and Tessier A. 2007. Mercury transformations and fluxes in sediments of a riverine wetland. *Geochim. Cosmochim. Acta* 71, 3393-3406.
43. Miller L.L., **Wang F**., Palace V.P., and Hontela A. 2007. Effects of acute and subchronic exposures to waterborne selenite on the physiological stress response and oxidative stress indicators in juvenile rainbow trout. *Aquat. Toxicol.* 83, 263-271.
42. Fu P., Wu F., Liu C., **Wang F.**, Li W., Yue L., and Guo Q. 2007. Fluorescence characterization of dissolved organic matter in an urban river and its complexation with Hg(II). *Appl. Geochem.* 22, 1668-1679.
41. Leitch D.R., Carrie J., Lean D., Macdonald R.W., Stern G.A., and **Wang F.** 2007. The delivery of mercury to the Beaufort Sea of the Arctic Ocean by the Mackenzie River. *Sci. Total Environ.* 373, 178–195.
40. Chen J., **Wang F**., and Xia X. 2006. Geochemistry of water quality of the Yangtze River basin. *Earth Science Frontiers* 13, 74-85.
39. Chen J., *Wang F.*, and He D. 2006. Geochemistry of water quality of the Yellow River basin. *Earth Science Frontiers* 13.
38. Loewen M.D., Sharma S., Tomy G., **Wang F.**, Bullock P., and Wania F. 2005. Persistent organic pollutants and mercury in the Himalaya. *Aquatic Ecosystem Health Management* 8, 223-233.
37. Chen J., **Wang F.**, Meybeck M., He D., Xia X., and Zhang L. 2005. Spatial and temporal analysis of water chemistry records (1958-2000) in the Huanghe (Yellow River) basin. *Global Biogeochem. Cycles* 19, GB3016, doi:10.1029/2004GB002325.
36. Li W., Zhao H., Teasdale P.R., and **Wang F.** 2005. Trace metal speciation measurements in waters by the liquid binding phase DGT device. Talanta 67, 571-578.
35. Xue L., Fu J.C., **Wang F.,** and Wang L. 2005. A mixture model approach to analyzing major element chemistry data of the Changjiang (Yangtze River). *Environmetrics* 16, 305-318.

34. Loewen M.D., Halldorson T., **Wang F.**, and Tomy G. 2005. Fluorotelomer carboxylic acids and PFOS in rainwater from an urban center in Canada. *Environ. Sci. Technol.* 39, 2944-2951.
33. Li W., Zhao H., Teasdale P.R., John R., and **Wang F.** 2005. Metal speciation measurement by diffusive gradients in thin films technique with different binding phases. *Anal. Chim. Acta* 533, 193-202.
32. Sukola K., **Wang F.**, and Tessier A. 2005. Metal-sulfide species in oxic waters. *Anal. Chim. Acta* 528, 183-195.
31. **Wang F.**, Goulet R.R., and Chapman P.M. 2004. Testing sediment biological effects with the freshwater amphipod *Hyalella azteca*: The gap between laboratory and nature. *Chemosphere* 57, 1713-1724.
30. Zhang J., **Wang F.**, House J.D., and Page B. 2004. Thiols in wetland interstitial waters and their role in mercury and methylmercury speciation. *Limnol. Oceanogr.* 49, 2276-2286.
29. Chapman P.M., **Wang F**., Janssen C.J., Goulet R.R., and Kamunde C.N. 2003. Conducting ecological risk assessments of inorganic metals and metalloids: Current status. *Human Ecol. Risk Assess.* 9, 641-697.
28. DeVries C. and **Wang F.** 2003. In situ two-dimensional high-resolution profiling of sulfide in sediment interstitial waters. *Environ. Sci. Technol.* 37, 792-797.
27. Chen J., **Wang F.**, Xia X., and Zhang L. 2002. Major element chemistry of the Changjiang (Yangtze River). *Chem. Geol.* 187, 231-255.
26. Chapman P.M., **Wang F.**, Germano J.D., and Batley G. 2002. Pore water testing and analysis: The good, the bad, and the ugly. *Mar. Pollut. Bull.* 44, 359-366.
25. **Wang F.**, Tessier A., and Hare L. 2001. Oxygen measurements in the burrows of freshwater insects. *Freshwater Biol.* 46, 317-328.
24. Chapman P.M. and **Wang F.** 2001. Assessing sediment contamination in estuaries. *Environ. Toxicol. Chem.* 20, 3-22.
23. Chapman P.M. and **Wang F.** 2000. Issues in ecological risk assessment of inorganic metals and metalloids. *Human Ecol. Risk Assess.* 6, 1-24.
22. Chen J., **Wang F.**, Li X.D., and Song J.J. 2000. Geographical variations of trace elements in sediments of the major rivers in eastern China. *Environ. Geol.* 39, 1334-1340.
21. **Wang F.** and Chen J. 2000. Relation of sediment characteristics to trace metal concentrations: A statistical study. *Water Res.* 34, 694-698.
20. **Wang F.** and Tessier A. 1999. Cadmium complexation with bisulfide. *Environ. Sci. Technol.* 33, 4270-4277.
19. Chapman P.M., **Wang F**., Adams W., and Green A. 1999. Appropriate applications of sediment quality values for metals and metalloids. *Environ. Sci. Technol*. 33, 3937-3941.
18. **Wang F.** and Chapman P.M. I999. Biological implications of sulfide in sediment - A review focusing on sediment toxicity. *Environ. Toxicol. Chem.* 18, 2526-2532.
17. **Wang F.**, Chapman P.M., and Allen H.E. 1999. Misapplication of equilibrium partitioning coefficients to derive metals sediment quality values. *Mar. Pollut. Bull.* 38, 423-425.
16. **Wang F**., Tessier A., and Buffle J. 1998. Voltammetric determination of elemental sulfur in pore waters. *Limnol. Oceanogr.* 43, 1353-1361.
15. Chapman P.M., **Wang F.**, Janssen C., Persoone G., and Allen H.E. 1998. Ecotoxicology of metals in aquatic sediments: Binding and release, bioavailability, hazard, risk and remediation. *Can. J. Fish. Aquat. Sci.* 55, 2221-2243.
14. **Wang F**., Chen J., and Forsling W. 1997. Modeling sorption of trace metals on natural sediments by surface complexation model. *Environ. Sci. Technol.* 31, 448-453.
13. **Wang F.**, Chen J., Chen J., and Forsling W. 1997. Surface properties of natural aquatic sediments. *Water Res.* 31, 1796-1800.
12. Chen J. and **Wang F.** 1996. Chemical composition of river particulates in eastern China. *GeoJournal* 40, 31-37.
11. Chen J., **Wang F.**, Cheng C., Chen J., and Song J. 1996. Elemental composition of river particulates in eastern China. *Acta Sci. Natural. Univ. Pekin.* 32, 206-214.
10. Chen J., Tang F., and **Wang F.** 1995. Mobilization of mercury from estuarine suspended particulate matter: A case study in the Yalujiang Estuary, northeast China. *Water Qual. Res. J. Can.* 30:25-32.
9. **Wang F.** and Y. Chen. 1994. Quantitative structure - activity relationships (QSARs) and their applications in environmental chemistry and toxicology. *Adv. Environ. Sci.* 2, 26-52.

8. Chen J., **Wang F.**, and J. Chen. 1994. Relation of aquatic particulate grain size to trace metal concentrations in the rivers in eastern China. *Acta Scientiae Circumstantiae* 14, 419-425.
7. Chen J., Chen J., and **Wang F.** 1994. Specific surface area of natural sediments from major rivers in eastern China. *Environ. Chem.* 13, 479-485.
6. **Wang F.** and Y. Chen. 1993. Environmental phases and fugacity model of persistent organic pollutants. *Environ. Chem.* 12, 71-77.
5. Chen J., Tang F., Jia Z., Tao S., Deng B., **Wang F.**, Liu Y., Liu Q., and Sun Q. 1993. Mobilization of mercury from the resuspended sediments from the Yalujiang Estuary, northeast China. *Acta Scientiae Circumstantiae* 13, 385-390.
4. Chen J. and **Wang F.** 1992. On generating sediment quality criteria. *Environ. Chem.* 11, 59-70.
3. Chen X. and **Wang F.** 1991. Speciation and mobility of chromium in sediments from an urban-contaminated river. *Environ. Chem.* 10, 19-23.
2. **Wang F.** 1990. On the objectives and sub-disciplines of environmental science. *China Environ. Sci.* 3, 213-217.
1. Liu H. and **Wang F.** 1989. Computer-aid municipal air quality assessment using fuzzy models. *Environ. Sci.* 11, 81-84.

Selected refereed book chapters & reports:

20. **Wang F.** and Macdonald R.W. 2022. Socioeconomic, political, and legal ramifications of environmental and biochemical toxicology: the complicated story of mercury. In: *Environmental and Biochemical Toxicology* (Gailer J. and Turner R.J., Eds). De Gruyter, Berlin. pp. 287-312.
19. AMAP, 2021. AMAP Assessment 2021: Mercury in the Arctic. Arctic Monitoring and Assessment Programme (AMAP), Oslo, Norway.
18. AMAP, 2021. 2021 AMAP Mercury Assessment. Summary for Policy-Makers. Arctic Monitoring and Assessment Programme (AMAP), Oslo, Norway.
17. Gaden A., Chetelat J., Heath J., Kuzyk Z.Z., Stern G., and **Wang F.** 2019. Contaminant cycling, ecosystem pathways, and wildlife trends in a changing climate. In: *From Science to Policy in the Greater Hudson Bay Marine Region: An Integrated Regional Impact Study (IRIS) of Climate Change and Modernization* (Kuzyk Z.A. and Candlish L.M. Eds.). ArcticNet, Quebec City, pp. 311-339.
16. **Wang F.**, Xie Z., and Zhang Q. 2019. Environmental chemistry of the cryosphere. In: *Frontiers of Environmental Chemistry*, Vol. 2 (G.B. Jiang, M.H. Zheng, H.W. Sun, and Y. Cai, Eds). Science Press, Beijing, China.
15. AMAP/UN Environment, 2019. *Technical Background Report for the Global Mercury Assessment 2018*. Arctic Monitoring and Assessment Programme, Oslo, Norway/UN Environment Programme, Chemicals and Health Branch, Geneva, Switzerland (access).
14. UN Environment, 2019. *Global Mercury Assessment 2018.* UN Environment Programme, Chemicals and Health Branch Geneva, Switzerland. ISBN: 978-92-807-3744-8 (access).
13. **Wang F**., Pućko M., and Stern G. 2017. Transport and transformation of contaminants in sea ice. In: *Sea Ice.* 3rd ed. (D.N. Thomas, Ed). Wiley-Blackwell, Oxford. pp. 472–491.
12. Outridge P.M. and **Wang F.** 2015. The stability of metal profiles in freshwater and marine sediments. In: *Environmental Contaminants: Using Natural Archives to Track Sources and Long-term Trends of Pollution* (J.M. Blais, M.R. Rosen, and J.P. Smol, Eds). Springer, Dordrecht. pp. 35-60.
11. **Wang F.**, Xia X. and Chen J. 2014. Water chemistry of major rivers of China. In: *Reference Module in Earth Systems and Environmental Sciences*. Elsevier. http://dx.doi.org/10.1016/B978-0-12-409548-9.09140-5.
10. NCP, 2012. *Mercury in Canada's North*. Canadian Arctic Contaminants Assessment Report III. Northern Contaminants Program (NCP), Aboriginal Affairs and Northern Development Canada, Ottawa, Canada.
9. **Wang F.**, Lemes M., and Khan M.A.K. 2012. Metallomics of mercury: Role of thiol- and selenol-containing biomolecules. In: *Environmental Chemistry and Toxicology of Mercury* (Y. Cai, G. Liu, and N.J. O'Driscoll, Eds.). Wiley.
8. Stern G.A. et al., 2012. Team 8 Contaminants. In: *On the Edge: From Knowledge to Action during the Fourth International Polar Year Circumpolar Flaw Lead System Study (2007-2008)* (D.G. Barber, T. Tjaden, D. Leitch, L. Barber and W. Chan, Eds.). University of Manitoba, Winnipeg, pp. 140-154.

7. AMAP. 2011. Arctic Pollution 2011. Arctic Monitoring and Assessment Programme (AMAP), Oslo, Norway. 38p.
6. AMAP, 2011. AMAP Assessment 2011: Mercury in the Arctic. Arctic Monitoring and Assessment Programme (AMAP), Oslo, Norway. 193p.
5. **Wang F.** and Chen J. 2010. Rivers of the World - Eastern Asia. In: *River Ecosystem Ecology: A Global Perspective* (G.F. Likens, Ed.). Academic Press. San Diego, USA. pp. 302-313.
4. **Wang F.** and Chen J. 2009. Rivers in China and Eastern Asia. In: *Encyclopedia of Inland Waters* (G.F. Likens, Ed.). Elsevier.
3. Chen J., **Wang F.**, and Zhang Y. 2003. Geochemical and surface properties of river sediments in eastern China. In: *Sediment Quality Assessment and Management: Insight and Progress* (M. Munawar, Ed.). Aquatic Ecosystem Health and Management Society.
2. Wu J., Chen J., and **Wang F.** 1992. Environmental geochemistry of heavy metals in the Bohai Bay, China. In: *Heavy Metals in the Aquatic Environment in China* (J. Chen and J. Zhou, Eds.). China Environmental Science Publisher, Beijing. pp. 189-230.
1. Chen J., Cheng C, and **Wang F.** 1991. Geographical variation on geochemical characteristics and heavy metal binding capacity of suspended matter from five major rivers in eastern China. In: *Heavy Metals in the Environment* (J.-P. Vernet, Ed.). Elsevier, Amsterdam. pp. 125-137.