

# MARICOR JANE ARLOS, Ph.D.

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## EDUCATION

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2018	Ph.D. Biology, Collaborative Water Program, University of Waterloo, Canada William B. Pearson Medal for Creative Doctoral Thesis
2013	M.A.Sc., Civil & Environmental Engineering (CEE), University of Waterloo, Canada
2011	B.A.Sc., CEE, Water Resources Option (With Distinction), University of Waterloo, Canada

## ACADEMIC POSITION

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2024 – Present	Assistant Professor, CEE, University of Waterloo. Start of employment: <u>Oct 1, 2024</u>
2020 – 2024	Assistant Professor, CEE, University of Alberta. End of employment: <u>Sept 30, 2024</u>

## RESEARCH FUNDING (in CAD) listed in amounts of research funding with info on what Arlos receives as PI or co-PI

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2025 – 2029	<u>PI</u> – Agriculture Funding Consortium, Innovative low-energy solutions: constructed wetlands as a polishing step for lagoon wastewater reuse for irrigation	\$630K
2024	<u>PI</u> – University of Waterloo, Faculty of Engineering Start-up Funding	\$120K
2024	<u>PI</u> – NSERC RTI, “Analytical Instrumentation for Micropollutant Analysis”	\$150K
2024 – 2027	<u>Co-PI</u> – NFRF-International, “Relational Accountability of Mother Earth: Revitalizing and Restoring the Land and Water,” Nominated Co-PI: Paulina Johnson.	\$1.5M
2023 – 2026	<u>Co-PI</u> – Alberta Innovates, “Water-Proofing Alberta’s Urban Communities: Countering the Effects of Climate Change, Urbanization and Water Scarcity through a Comprehensive One-Water Source Protection Plan,” PI: Norman Neumann. ( <b>Arlos receives \$150K</b> )	\$540K
2023 – 2025	<u>Collaborator</u> – Advancing bioaccumulation science for organic contaminants in aquatic systems, PI: Juliane Hollender, Eawag, Swiss National Science Foundation ( <b>Arlos receives \$80K</b> )	\$1.3M
2023 – 2025	<u>PI</u> – Arramat Project, NFRF-Transformation administered at the UofA, “Land2Lab Camp”	\$63K
2022 – 2024	<u>PI</u> – University of Alberta, Faculty of Engineering Exploration Research Fund, “Addressing Water Insecurity in Canada using Transdisciplinary, Co-Creation, and Community-based Approaches.”	\$50K
2021 – 2024	<u>PI</u> – MITACS Accelerate, “Treating waste with waste: the potential for aluminum industry waste (Bauxite Residue – “Red Mud”) as an environmentally sustainable remediation material.	\$90K
2022 – 2025	<u>Co-PI</u> – NSERC Alliance, “Development of an adaptive monitoring and management framework for environmental substances of concern in municipal wastewater.” PI – Dr. Kelly Munkittrick, University of Calgary ( <b>Arlos receives: \$150K</b> ).	\$918K
2022	<u>PI</u> – Faculty of Engineering Seed Grant, “Bioanalytical monitoring of Laguna Lake (Philippines) to scope out environmental and human health impacts and water research priorities associated with organic chemical pollution.”	\$20K
2021 – 2026	<u>PI</u> – NSERC Discovery Grant, “ <i>In situ</i> fate of wastewater-derived micropollutants - impacts of future climatic scenarios.”	\$180K
2021	<u>PI</u> – NSERC Discovery Grant Supplemental for Early Career Researchers	\$12.5K
2020 – 2022	<u>PI</u> – University of Alberta, Faculty of Engineering Start-up Funding	\$150K
2020 – 2023	<u>PI</u> – University of Alberta, Future Energy Systems Award for ECR. “Employing <i>in vitro</i> bioassays to assess OSPW treatment.”	\$100K
2020 – 2022	<u>Co-PI</u> – Environment and Climate Change Canada – Increasing Knowledge on Plastic Pollution Initiative: “Microplastic fate and transport to predict impacts and thresholds of exposure.” PI – Dr. Jeff Farner, UofA ( <b>Arlos receives \$30K</b> )	\$160K

## RESEARCH FUNDING OBTAINED PRIOR TO FACULTY APPOINTMENT (in CAD)

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2018 – 2020	ETH-Zürich PDF (Equiv. to CHF205,600 for salary and research expenses)	\$270K
2018 – 2020	Natural Sciences and Engineering Research Council (NSERC) PDF Proposal was ranked <u>1/33</u> applications submitted to Committee 201 (Civil Eng)	\$90K

## SCHOLARSHIPS, AWARDS, AND DISTINCTIONS

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2023	Alumni Award, Collaborative Water Program, Water Institute, University of Waterloo
2023	Alberta Science and Technology (ASTech) Award Finalist, Category – Environment & Water
2023	ASTech Award Finalist, Category – Social Innovation/Educational Technologies
2023	ASTech Award Finalist, Category – Indigenous-Led Contribution to Knowledge
2021	Nominee, Faculty of Engineering Remote Teaching Award, University of Alberta
2018	William B. Pearson Medal for Creative Doctoral Thesis, University of Waterloo
2018	Nominee, Alice Wilson Award, The Royal Society of Canada
2018	Tri-Agency Early Degree Completion Award, University of Waterloo
2017	Biology Department Teaching Assistantship (TA) Award, University of Waterloo
2016	Waterloo Institute for Nanotechnology – Nanofellowship, University of Waterloo
2016	Philip Jones Award – Best Student Presentation, Canadian Association on Water Quality
2016	Allan Holmes Scholarship, Grand River Conservation Foundation
2016	Biology Graduate Symposium – People’s Choice Award, University of Waterloo
2016	Society of Toxicology and Chemistry (SETAC) North America Travel Award
2016 & 2017	Graduate Student Research Travel Assistantship, University of Waterloo
2015 – 2018	NSERC Postgraduate Scholarship, Doctoral (PhD stipend)
2015 – 2018	University of Waterloo President’s Graduate Scholarship (PhD stipend)
2015	Golder Associates Graduate Scholarship, Water Institute, University of Waterloo
2014	Royal Bank of Canada Water Scholars Graduate Entrance Scholarship
2013	Sanford Fleming TA Award, CEE, University of Waterloo
2006 – 2011	Queen Elizabeth II Undergraduate Aiming for the Top Scholarship, Ontario Government
2006	President Entrance Scholarship, University of Waterloo
2006	Faculty of Engineering Entrance Scholarship, University of Waterloo

## PEER-REVIEWED PUBLICATIONS (h-index = 15, Google Scholar)]; underlined= HQP; IF = Impact Factor

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1. Quecke E.L., Peralta-Limachi S., Baluyot J.C., Diaz L.A., Carag H.M., Marjan P., Sta. Ana J., Cheng F., Ulrich A., Hicks K., Velarde M., **Arlos M.J.** (2024). "Bioanalytical monitoring of Laguna Lake (Philippines) to assess water research priorities associated with organic chemical pollution and cyanobacterial blooms". *ACS Environmental Science & Technology – Water*. In press. IF = 4.9
2. Cheng F., Pang J., Berggren S., Tanvar H., Mishra B., and **Arlos M.J.** (2024). "Treating Waste with Waste: Activated Bauxite Residue (ABR) as a Potential Wastewater Treatment. *ACS Omega*. 9(45): 45251-45262. IF = 4.0
3. Pulgarin-Zapata D., Bragg L.M., Cardenas-Soraca D.M., Marjan P., Munkittrick K.R., Servos M.R., Arnold V.I., **Arlos M.J.** (2024). "Multicompartment examination of micropollutant partitioning in replicate artificial streams highlights the limitations of assessing water matrices alone. *ACS Environmental Science & Technology – Water*. 9(45): 4165-4174. IF = 4.9
4. Nurain A., Zhang Y., Meier D., Farner J.M., Goss G., **Arlos M.J.** (2024). "Sorption behavior of trace organic chemicals on carboxylated polystyrene nanoplastics". *ACS Environmental Science & Technology – Water* 4(9): 4018-4027. IF = 4.9
5. Marjan P., Martyniuk C., **Arlos M.J.,** Servos M.R., Ruecker N.J., Munkittrick K.R. (2024). "Identifying transcriptomic indicators of tertiary treated municipal effluent in longnose dace (*Rhinichthys cataractae*) caged under semi-controlled conditions in experimental raceway". *Science of the Total Environment* 923:171257. IF = 8.2
6. **Arlos M.,** V. Arnold, J.S. Bumagat, J. Zhou, K. Cereno, A. Deas, K. Dai, N.J. Ruecker, and K.R. Munkittrick. Combining chemical, bioanalytical and predictive tools to assess persistence, seasonality, and sporadic releases of organic micropollutants within the urban water cycle. (2023) *Water Research* 244:120454. IF = 11.5
7. Hicks K., Fuzzen M.L.M., Dhiyebi H., Bragg L.M., Marjan P., Cunningham J., McMaster M., Srikanthan N., Nikel K., **Arlos M.,** Servos MR. (2023). "Intersex manifestation in the rainbow darter (*Etheostoma caeruleum*): Are adult male fish susceptible to developing and recovering from intersex after exposure to endocrine active compounds?" *Aquatic Toxicology* 261:106636. IF = 4.9
8. Barrow K, Escher B., Hicks K., König M, Schlichting R., **Arlos M.J.** (2023). "Water quality monitoring with in vitro bioassays to compare untreated oil sands process-affected water with unimpacted rivers". *Environmental Science Water Research and Technology*. IF = 3.5. **Paper selected for journal cover artwork.**

*Publications continued*

9. Lauper B, Anthamatten E, Raths J, **Arlos M**, Hollender J. (2021). "Systematic Underestimation of Pesticide Burden for Invertebrates under Field Conditions: Comparing the Influence of Dietary Uptake and Aquatic Exposure Dynamics." *ACS Environmental Au.* 2, 2, 166-175. IF = 6.7
10. Fattahi A, Jaciw-Zurakowsky I, Srikanthan N, Bragg L, Liang R, Zhou N, Servos M, **Arlos M** (2021). "Effect of Background Water Matrices on Pharmaceutical and Personal Care Product Removal by UV-LED/TiO<sub>2</sub>". *Catalyst* 11(5):576. IF = 3.8
11. Fattahi A, **Arlos M**, Bragg L, Liang R, Zhou N, Servos M (2021). "Degradation of natural organic matter using Ag-P25 photocatalyst under continuous and periodic irradiation of 405 and 365 nm UV-LEDs." *J. Environ. Chem. Eng.* 9(1):104844. IF = 7.4
12. Tetreault G, Kleywegt S, Marjan P, Bragg L, **Arlos M**, Fuzzen MLM, Smith B, Moon T, Massarsky A, Metcalfe C, Oakes K, McMaster M, Servos M. (2021). "Biological responses in fish exposed to municipal wastewater treatment plant effluent *in situ*." *Water Quality Research* 56(2):83-99. IF = 2.41
13. Fattahi A, **Arlos M**, Bragg L, Kowalczyk S, Liang R, Schneider O, Zhou N, Servos M. (2021). "Photodecomposition of pharmaceuticals and personal care products using P25 modified with Ag nanoparticles in the presence of natural organic matter". *Sci. Total Environ.* 752:142000. IF = 8.2
14. **Arlos M**, Focks A, Hollender J, Stamm C. (2020). "Improving risk assessment by predicting the survival of field gammarids exposed to dynamic pesticide mixtures." *Environ. Sci. Technol.* IF = 10.9
15. **Arlos M**, Schuerz F, Fu Q, Lauper B, Stamm B, Hollender J. (2020). "Coupling river concentration simulations with a toxicokinetic model effectively predicts the internal concentrations of wastewater-derived micropollutants in field gammarids." *Environ. Sci. Technol.* 54(3): 1710-1719. IF = 10.9
16. de Wilt A, **Arlos M**, Servos M, Rijnaarts H, Langenhoff A, Parker W. (2020). "Improved biodegradation of pharmaceuticals after mild photocatalytic pre-treatment." *Water and Environment Journal.* 1:1-11. IF = 1.7
17. Liang R, Van Leuwen J, Bragg L, **Arlos M**, Fong L, Schneider O, Jaciw-Zurakowsky I, Fattahi A, Rathod S, Peng P, Servos M, Zhou N. (2019). "Utilizing UV-LED pulse width modulation on TiO<sub>2</sub> advanced oxidation processes to enhance the decomposition efficiency of pharmaceutical micropollutants." *Chem. Eng. J.* 361: 439-449. IF = 13.4
18. Fattahi A, Liang R, Kaur A, Schneider O, **Arlos M**, Peng P, Servos M, Zhou N. (2019). "Photocatalytic degradation using TiO<sub>2</sub>-graphene nanocomposite under UV-LED illumination: Optimization using response surface methodology." *J. Environ. Chem. Eng.* 7(5): 103366. IF = 7.4
19. **Arlos M**, Parker W, Bicudo J, Law P, Hicks K, Fuzzen M, Andrews S, and Servos M. (2018). "Modeling the exposure of wild fish to endocrine active chemicals: Potential linkages of total estrogenicity to field-observed intersex." *Water Res.* 139: 187-197. IF = 11.5
20. **Arlos M**, Parker W, Bicudo J, Law P, Marjan P, Andrews S, Servos M. (2018). "Multi-year prediction of estrogenicity in municipal wastewater effluents." *Sci. Total Environ.* 610: 1103-1112. IF = 8.2
21. **Arlos M**, Liang R, Fong L, Zhou N, Ptacek C, Andrews S, Servos M. (2017). "Influence of methanol when used as a water-miscible carrier of pharmaceuticals in TiO<sub>2</sub> photocatalytic degradation experiments." *J. Environ. Chem. Eng.* 5(5): 4497-4504. IF = 7.4
22. Hatat-Fraile M, Liang R, **Arlos M**, He X, Peng P, Servos M, Zhou N. (2017). "Concurrent photocatalytic and filtration processes using doped TiO<sub>2</sub> coated quartz fiber membranes in a photocatalytic membrane reactor." *Chem. Eng. J.* 330: 531-540. IF = 13.4
23. Liang R, Fong L, **Arlos M**, Van Leeuwen J, Shahnam E, Peng P, Servos M, Zhou N. (2017). "Photocatalytic degradation using one-dimensional TiO<sub>2</sub> and Ag-TiO<sub>2</sub> nanobelts under UV-LED controlled periodic illumination." *J. Environ. Chem. Eng.* 5(5): 4365-4373. IF = 7.4
24. Hicks K, Fuzzen M, McCann E, **Arlos M**, Bragg L, Kleywegt S, Tetreault G, McMaster M, Servos M. (2017). "Reduction of intersex in a wild fish population in response to major municipal wastewater treatment plant upgrades." *Environ. Sci. Technol.* 51(3): 1811-1819. IF = 10.9
25. **Arlos M**, Liang R, Hatat-Fraile M, Bragg L, Zhou N, Servos M, and Andrews S. (2016). "Photocatalytic decomposition of selected estrogens and their estrogenic activity by UVLED irradiated TiO<sub>2</sub> immobilized on porous titanium sheets via thermal-chemical oxidation." *J. Haz. Mat.* 318: 541-550. IF = 12.2
26. **Arlos M**, Hatat-Fraile M, Liang R, Bragg L, Andrews S, Servos M. (2016). "Photocatalytic decomposition of organic micropollutants using immobilized TiO<sub>2</sub> having different isoelectric points." *Water Research.* 101: 351-361. IF = 11.5
27. **Arlos M**, Bragg L, Parker W, Servos M. (2015). "Distribution of selected antiandrogens and pharmaceuticals in a highly impacted watershed." *Water Res., in a Special Issue entitled "Occurrence, fate, removal and assessment of emerging contaminants in water in the water cycle (from wastewater to drinking water)."* 72: 40-50. IF = 11.5
28. **Arlos M**, Bragg L, Servos M, Parker W. (2014). "Simulation of the fate of selected pharmaceuticals and personal care products in a highly impacted reach of a Canadian watershed." *Sci. Total Environ.* 485: 193-204. IF = 8.2

## REFEREED PROCEEDINGS AND ABSTRACTS

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1. Liang R., Hatat-Fraile M., **Arlos M**, Servos M, Zhou YN, 2014. TiO<sub>2</sub> nanowires membranes for the use in photocatalytic filtration processes, Nanotechnology (IEEE-NANO), 2014 IEEE 14th International Conference on. IEEE, pp. 975-980.
2. Liang R., Hatat-Fraile, M., He H., **Arlos M**, Servos MR, Zhou, YN, 2015. TiO<sub>2</sub> membranes for concurrent photocatalytic organic degradation and corrosion protection, SPIE Nanoscience+ Engineering. International Society for Optics and Photonics, pp. 95450M-95450M-95456.

## ARTICLES PUBLISHED IN SCIENTIFIC MAGAZINES

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1. **Arlos M**, Parker WJ, Andrews SA, Servos M. Relationship between Estrogens and Intersex in a Major Lake Erie Tributary: A Modelling Approach. Influents. Water Environment Association of Ontario. Volume 2, Summer 2017. pp. 52-55.

## ORAL PRESENTATIONS (since 2017 only) \*Speaker, underlined = HQP

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1. Liu J, **Arlos M**, Ruecker N, Ross M. Characterizing microplastics concentration with source water impacted by stormwater inputs. National Water and Wastewater Conference. Winnipeg, Manitoba. November 3-6, 2024.
2. Hicks J, **Arlos M**, Camm E, Neumann N, Ruecker N. The potential for micropollutants and microbial indicators as tracers of domestic sewage contamination along the Bow River. National Water and Wastewater Conference. Winnipeg, Manitoba. November 3-6, 2024
3. Pulgarin-Zapata D\*, Bumagat J, Bragg L, Cardenas-Soraca DM, Marjan P, Munkittrick K, Servos M, Arnold V, **Arlos M**. Partitioning of pharmaceutical and personal care products in five environmental matrices from naturalized artificial streams in Calgary, Alberta. National Water and Wastewater Conference. Winnipeg, Manitoba. November 3-6, 2024
4. Pang J, Qiu H, Berggren S, **Arlos M**. Assessing the potential of activated bauxite residue (ABR) to remove PFAS in the water column. National Water and Wastewater Conference. Winnipeg, Manitoba. November 3-6, 2024
5. Quecke E, Peralta-Limachi S, Baluyot J, Diaz L, Carag M, Marjan P, Sta. Ana J, Cheng F, Ulrich A, Hicks K, Velarde M, **Arlos M**. Evaluation of Effects-Based Methods and Cyanobacterial Bloom Indicators for Enhanced Water Quality Monitoring in Laguna Lake (Philippines). 14<sup>th</sup> Biennial Society of Environmental Toxicology and Chemistry (SETAC) Asia-Pacific. Tianjin China, September 2024.
6. **Arlos M**, Arnold V, Bumagat J, Zhou A, Cereno K, Deas A, Dai K, Ruecker N, Munkittrick K. Persistence, seasonality, and sporadic releases of organic micropollutants. 34<sup>th</sup> SETAC Europe (EU). Seville Spain. May 3-9, 2024.
7. Pulgarin-Zapata D\*, Bumagat J, Bragg L, Marjan P, Munkittrick K, Servos M, Arnold V, Ruecker N, **Arlos M**. Assessing the bioaccumulative potential of micropollutants in replicate artificial streams facility. 44<sup>th</sup> SETAC North America Annual Meeting. Louisville, Kentucky. November 12-16, 2023.
8. Pulgarin-Zapata D\*, Bumagat J, Bragg L, Marjan P, Munkittrick K, Servos M, Arnold V, Ruecker N, **Arlos M**. Investigating micropollutant partitioning in five environmental and biological matrices collected in replicate artificial streams. 49<sup>th</sup> Canadian Ecotoxicity Workshop. Ottawa, Canada. October 2-6, 2023.
9. Pulgarin-Zapata D\*, Bumagat J, Bragg L, Marjan P, Munkittrick K, Servos M, Arnold V, Ruecker N, **Arlos M**. Assessing the bioaccumulative potential of micropollutants in replicate artificial streams facility. 75<sup>th</sup> Western Canada Water Conference. Saskatoon, Canada. September 25-28, 2023.
10. Quecke E\*, Johnson P, **Arlos M** (2023) "Reclaiming Water Security: Transdisciplinary Approach to Water Issues." 1<sup>st</sup> Inclusive Excellence in Water Symposium. Dalhousie University. Halifax, Nova Scotia.
11. Nurain A\*, Zhang Y, Farner J, Goss G, **Arlos M** (2022) "Adsorption of trace organic chemicals to polystyrene nanoplastics. 15th International Conference on the Environmental Effects of Nanoparticles and Nanomaterials (ICEENN2022). Montréal, Québec, Canada. August 24-26, 2022
12. Barrow K\*, Escher, B, Hicks K, **Arlos M** (2022) "In vitro bioassay monitoring in receiving aquatic environments prior to potential discharge of treated oil sands process- affected water." 32<sup>nd</sup> SETAC EU. Copenhagen, Denmark, May 15 - 19, 2022
13. Bumagat S\*, Pulgarin D\*, **Arlos M** (2021). "Protecting our water: investigating the spatio-temporal trends and bioaccumulative potential of emerging substances of concern in the Bow River in Calgary." Canadian Water Resources Association Student and Young Water Professional Talk. Online.
14. Barrow K\*, Escher B, **Arlos M** (2021). "Using in vitro bioassays to predict the impact of OSPW on receiving aquatic environments." 47<sup>th</sup> Canadian Ecotoxicology Workshop. Halifax, Nova Scotia.
15. Barrow K\*, **Arlos M** (2021). "Assessment of the efficiency of water treatment using a battery of in vitro bioassays." 1<sup>st</sup> IWA Canadian Young Water Professionals Conference (Virtual Meeting).

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### *Oral Presentations continued*

16. **Arlos M\***, Focks A, Hollender J, Stamm C (2020). "Predicting the survival of gammarids in the field provides additional insights on the impacts of dynamic pesticide exposures." SETAC North America (Virtual Meeting).
17. **Arlos M\***, Schürz F, Fu Q, Lauper BL, Stamm C, Hollender J (2019). "Coupling of river and toxicokinetic models effectively predicts the whole-body burden in field gammarids." SETAC North America. Toronto, Canada
18. **Arlos M\***, Schürz F, Fu Q, Lauper BL, Stamm C, Hollender J (2019) "Employing river and toxicokinetic models to estimate the whole-body burden in field gammarids". 11<sup>th</sup> IWA Micropol Conference. Seoul, South Korea
19. **Arlos M\*** (2017). "Modeling the exposure of wild fish to endocrine disrupting chemicals: linkages of stressor concentrations to intersex." Eawag. Dübendorf, Switzerland.
20. **Arlos M\***, Parker WJ\*, Andrews SA, Hicks KA, Fuzzen MLM, Servos MR (2017). Modelling the exposure of wild fish species to endocrine active chemicals: linkages of stressor concentrations to physiological consequences. Water Environment Federation Technical Exhibition and Conference. Chicago, IL.
21. **Arlos M\***, Parker WJ\*, Andrews SA, Hicks KA, Fuzzen MLM, Servos MR (2017). Modelling the exposure of wild fish species to endocrine active chemicals: linkages of stressor concentrations to intersex. 10<sup>th</sup> Micropol & Ecohazard Conference. Vienna Austria.

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### INVITED PRESENTATIONS

1. **Arlos M** (2023) "H2 Uh-Oh: Emerging Water Contaminants and Our Urban Environment". Edmonton Public Library Public Lecture Series. Oct 18, 2023.
2. **Arlos M** (2023) "Emerging Water Leaders and Practitioners" Inclusive Excellence in Water Symposium. Dalhousie University. Halifax, Nova Scotia. May 4-6, 2023.
3. **Arlos M** (2023) "Updates and Ongoing Initiatives on Microcystin Studies in Laguna Lake." University of the Philippines – Water Research and Management Centre Webinar. Mar 22, 2023
4. **Arlos M** (2022) "Sustainability and Environmental Stewardship. Guest Lecture ENGG 400. Faculty of Engineering. University of Alberta
5. **Arlos M** (2021) "Evaluating exposure to micropollutants: linkages of stressor concentrations to biological effects in aquatic organisms." Guest Lecturer BBME 600 Seminar. McGill University
6. **Arlos M** (2021). "Assessing fate and transport modelling of emerging contaminants." Environment and Climate Change Canada (ECCC) Municipal Wastewater Effluent Working Group Seminar. Virtual Meeting.
7. **Arlos M** (2020). "My academic job interview journey." Eawag Postdoctoral and Scientist Association - Professional Development. Dübendorf, Switzerland.
8. **Arlos M**, Liang R, Hatat-Fraile M, Zhou YN, Andrews S, Servos MR (2017). "Bench-scale treatment of selected pharmaceuticals and endocrine disrupting compounds using UV-LED irradiated TiO<sub>2</sub> immobilized on porous supports". 14<sup>th</sup> International Forum on Micro-Nano Manufacturing Technology for Graduate Students (Beihang University). Beijing, China.
9. **Arlos M**, Liang R, Hatat-Fraile M, Zhou YN, Andrews SA, Servos MR (2017). Photocatalytic decomposition of estrogens and associated estrogenic activity using immobilized TiO<sub>2</sub>. Oral presentation at the Waterloo Institute of Nanotechnology (WIN) Graduate Student Seminar Series. Waterloo, Ontario, Canada.

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### POSTER PRESENTATIONS AT ACADEMIC CONFERENCES

1. **Nurain A\***, Zhang Y, Farner J, Goss G, **Arlos M** (2022) "Adsorption of trace organic chemicals to polystyrene nanoplastics. 75<sup>th</sup> Western Canada Water Conference. Saskatoon, Canada. Sep 25-28, 2023.
2. **Morrison J\***, **Quecke E**, **Arlos M**. Land2Lab Pilot Research and Outreach, Pigeon Lake. I-STEAM Pathway End of Summer Presentation. University of Alberta, Canada. Aug 25, 2023.
3. **Pulgarin-Zapata D\***, **Bumagat J**, Bragg L, Marjan P, Munkittrick K, Servos M, Arnold V, Ruecker N, **Arlos M**. Assessing the bioaccumulative potential of micropollutants in replicate artificial streams facility. BREHA Urban Alliance Research Symposium. City of Calgary Water Centre. Calgary, Canada. Feb 21, 2023.
4. **Zhou J**, **Cheng F**, **Barrow K**, **Arlos M**. Analyzing In vitro Biototoxicity Removals in Municipal Wastewater Treatment Plants in Calgary. BREHA Urban Alliance Research Symposium. City of Calgary Water Centre. Calgary, Canada. Feb 21, 2023.
5. **Pulgarin-Zapata D\***, Bumagat S, Bragg LM, Marjan P, Munkittrick K, Servos M, **Arlos M**. Assessing the bioaccumulative potential of micropollutants in replicate artificial streams facility. Society of Environmental Toxicology and Chemistry (SETAC) NA. Pittsburgh, USA, Nov 13 – 17, 2022.
6. Kalantar E, Bugg N, Burgeois F, Zhang Y, Goss G, **Arlos M**, Farner J. Production of weathered micro- and nanoplastics for improved environmental testing. 15<sup>th</sup> International Conference on the Environmental Effects of Nanoparticles and Nanomaterials (ICEENN2022). Montréal, Québec, Canada. Aug 24-26, 2022.

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*Poster Presentations continued*

7. Lauper, B., **Arlos M**, Hollender J. Dynamik von Mikroverunreinigungen in Bächen: Von Wasser zu aquatischen Invertebraten. 24th Annual Meeting Society of Environmental Toxicology Chemistry (SETAC) German Language Branch. September 2019, Koblenz-Landau, Germany
8. **Arlos M**, Stamm C, Hollender J, SETAC Europe 13th Special Science Symposium. Oct 2018
9. **Arlos M\***, Liang R, Hatat-Fraile M, Zhou YN, Andrews SA, Servos MR (2016). The removal of endocrine disrupters using TiO<sub>2</sub> immobilized on porous titanium sheets. SETAC World Congress, Nov 2016, Orlando, FL.
10. **Arlos M\***, Hatat-Fraile M., Liang R., Andrews SA, Servos MR The removal of biological activity using UV/TiO<sub>2</sub> photocatalysis. Poster presentation at the 41<sup>st</sup> Annual Aquatic Toxicology Workshop September 2014, Ottawa, ON.
11. Bragg LM\*, **Arlos M**, McCann KE, and Servos MR (2014). Impacts of upgrades to the Kitchener wastewater treatment plant on the distribution of emerging contaminants in the Grand River watershed. Poster presentation at the 41<sup>st</sup> Annual Aquatic Toxicology Workshop, Sep 2014, Ottawa, ON. (Master's Work).
12. Hatat-Fraile, M\*, Liang R., **Arlos, M.**, and Zhou, Y. N., (2014) Photocatalytic membranes for the treatment of refractory organic pollutants. Oral presentation at 49<sup>th</sup> Central Canadian Symposium in Water Quality Research, Mar 2014, Niagara-on-the-Lake, ON.
13. **Arlos M\***, Bragg LM, Servos MR, Parker W J. The spatial distribution of selected antiandrogens and pharmaceuticals during low flow conditions in the Grand River watershed. SETAC North America 34<sup>th</sup> Annual Meeting, Nov 2013, Nashville, TN.
14. **Arlos M\***, Bragg LM, Servos MR, Parker WJ. Characterization and modeling of antiandrogens and pharmaceuticals in highly impacted reaches of the Grand River watershed. 5<sup>th</sup> Annual Workshop on Control of Emerging Contaminants in Water and Wastewater Treatment Systems, Jun 2013, Waterloo

**HIGHLY QUALIFIED PERSONNEL** including level of supervision, funding, awards, \*Graduated

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<i>First and Last Name</i>	<i>Degree</i>	<i>Supervision</i>	<i>Scholarship/Awards</i>
1. Kia Barrow*	MSc (2020–2022)	100%	COBCARES Scholarship; Research Excellence in Earth or Enviro Sci (BESTEMM 2022)
2. Afrida Nurain*	MSc (2021–2023)	100%	J. Kaplan Scholarship; WCW Travel Grant
3. Daniela Pulgarin Zapata*	MSc (2021–2023) Res Asst (2023 – 2025)	100%	Colfuturo Scholarship; WCW Travel Grant
4. Fei Cheng*	MSc (2021–2023)	100%	MITACS Intern
5. Jaime Hicks	MSc (2022–2024)	100%	Women in STEM Scholarship – Alberta
6. Jingyi Liu	MSc (2022–2024)	50%	MITACS Intern
7. Jingya Pang*	MSc (2022–2024) PhD (2025–2029)	100%	-
8. Alison Deas*	MEng (2021–2022)	100%	-
9. Emily Quecke	PhD Student	30%	NSERC CGS-D
10. Jay Macairan	PhD Exchange (2023)	100%	UAlberta International Exchange
11. Seth Bumagat	UG (Chem Eng)	100%	Dean's Research Award ( <b>DRA</b> ) (2021, 2023); NSERC USRA (2021)
12. Demi Meier*	UG (Animal Health)	100%	I-STEAM Pathway Intern (Summer 2021)
13. Kyra Jubinville*	UG (Env Eng)	100%	-
14. Alex Zhou*	UG (Env Eng)	100%	DRA (Fall 2021, 2022, Winter 2022)
15. Katrina Cereno	UG (Civil Eng)	100%	DRA (Winter 2022)
16. Pramaya Kannel	UG (Civil Eng)	100%	DRA (Winter 2022)
17. Stephanie Peralta	UG Exchange (2023)	100%	ELAP Exchange Scholarship 2023
18. Jessica Morrison*	UG (2023)	100%	I-STEAM Pathway Intern (Summer 2023),
19. Huixin Qiu*	UG Exchange (2023)	100%	NSERC USRA
20. Richie Chia	UG (2024)	100%	UAlberta International Research
21. Kristian Gabriel Cereno	UG (2024)	100%	-
22. Everett Horner*	UG (2024)	100%	DRA (Fall 2023, Winter 2024)
23. Diba Ghahremani	UG (2024)	100%	-
24. Guilaine Flora Wangap	UG (2024)	100%	NSERC USRA (Summer 2024)
25. Qianyang Wang	Postdoc (2024–2026)	100%	-

## TEACHING (G = Graduate, UG = Undergraduate)

<i>Course (University of Alberta)</i>	<i>Term</i>	<i>Times Taught</i>	<i>Rating (/5)</i>
1. CIVE 221. Fundamentals of Environmental Engineering (UG)	Winter	3	4.8, 4.7, 4.5
2. ENVE 400. Environmental Water Quality Management (UG)	Fall	1	4.8
3. CIVE 622. Physical and Chemical Water/Wastewater Treatment (G)	Fall	2	4.8, 4.7

## PROGRAM / COURSE DEVELOPMENT

<i>Course</i>	<i>Term</i>	<i>Description</i>
1. UWaterloo, EnvE 175. Chemistry for Environmental Engineering Students	Fall 2025	New course as part of the EnvE program "Re-Imagine"
2. UAlberta CIVE 525. Water Quality Management (UG-G)	Fall 2024	New course elective for senior UG/G
3. UAlberta, Water School (UG)	Summer 2024	Immersive 6-day experiential learning

## SERVICE / VOLUNTEER ROLES

1. University of Waterloo (UW) Water Institute, CWP Program Committee	2025
2. UW, Engineering Faculty Council, CEE Representative	2025
3. University of Alberta (UAlberta), Environmental Engineering Group External Affair Representative – Organizer for First Year Night, Engineering Orientation, Open House, ENVE Student Welcome	2020 – present
4. UAlberta Faculty Hiring Committee Member: Tenure-track positions for Transportation, Water Resources, Electrical and Computer Engineering	2021 – 2023
5. UAlberta, William Muir Edwards Award Selection Committee	2022 – present
6. UAlberta, Course Champion: Civil Engineering Curriculum Update: CIVE 221, CIVE 425	2022 – 2023
7. UAlberta, ENV E Program Modernization Working Group	2023
8. UAlberta, Land2Lab Community Outreach	2023
9. Pigeon Lake Watershed Association – Creek Watch	2023
10. UAlberta, Experiential Learning – Water – Program Developer	2023
11. UAlberta. Future Energy System – Outreach (Energy Expert <a href="#">Videos</a> )	2023
Recorded nine videos as responses to student questions (Grades K-12)	

## MEDIA ARTICLES ABOUT MY CONTRIBUTIONS

1. Collaborative Water Program 2023 Alumni Achievement Award. University of Waterloo, Water Institute Newsletter, November 2023.	<a href="https://shorturl.at/fgjTU">https://shorturl.at/fgjTU</a> <a href="https://shorturl.at/oxyDJ">https://shorturl.at/oxyDJ</a>
2. CBC Radio Edmonton. "Tackling the clean water crisis." Apr 28, 2023	<a href="https://shorturl.at/ivy48">https://shorturl.at/ivy48</a>
3. "Watershed Moment." University of Alberta Folio, May 2022	<a href="http://bitly.ws/APKd">http://bitly.ws/APKd</a>
4. "Meet Our Mentor – Dr. Arlos" DiscoverE, March 2021	<a href="https://bit.ly/3A5cpbQ">https://bit.ly/3A5cpbQ</a>
5. "Meet Dr. Arlos" Female Engineering Mentorship, University of Alberta, 2021.	<a href="https://goo.gl/p3oZUK">https://goo.gl/p3oZUK</a>
6. "Making connections beyond the classroom". Water Institute, University of Waterloo, May 2, 2018.	<a href="https://goo.gl/N5S636">https://goo.gl/N5S636</a>
7. "Water connections – from Canada to the Philippines" by Sylvie Spraakman, Waterlution, Jul 14, 2017.	

## INTERNAL NEWSLETTER FEATURES

1. UAlberta, Engineering Water School – Connecting Currents: A Watershed Journey of Collaboration and Learning	September 2024
2. UAlberta, Future Energy Systems Newsletter. EDI Spotlight: Maricor Arlos	December 2023
3. UAlberta, Faculty of Engineering. Engineering News. Experiential Learning Spotlight.	November 2023
4. UAlberta, Civil and Environmental Engineering Newsletter. Building Meaningful Relationships Between the Faculty of Arts and Faculty of Engineering through Indigenous Community-Based Research.	May 2023

## **SCIENTIFIC ADVISORY COMMITTEE**

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|--|-------------|
| 1. Health Canada Pest Management Regulatory Agency: Appointed Academic Expert – Science Advisory Committee on Pest Control Products (recommendations to PCP management in Canada, six meetings per year) | 2021 – 2025 |
| 2. North Saskatchewan River (NSR) Basin Science and Knowledge Mobilization   | 2022 – 2024 |

## **PROFESSIONAL MEMBERSHIPS**

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|---|----------------------|
| 1. Association of Professional Engineering and Geoscientists of Alberta (APEGA) | Engineer-in-Training |
| 2. Society of Environmental Toxicology and Chemistry (SETAC)                    | Member               |
| 3. American Chemical Society (ACS)  | Member               |