Maricor Jane Arlos

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Education

2018	PhD Biology, Collaborative Water Program, University of Waterloo, Canada
2013	M.A.Sc., Civil & Environmental Engineering (CEE), University of Waterloo, Canada
2011	B.A.Sc., CEE, Water Resources Option, University of Waterloo, Canada

Academic Positions

2020 – Present	Assistant Professor, Civil & Environmental Engineering, University of Alberta, CA
2018 – 2020	Postdoctoral Fellow, ETH-Zurich, Switzerland; Fellowship held at the Swiss Federal Institute of Aquatic Science and Technology (Eawag)

Funding

2020 – 2022	Faculty of Engineering Start-up Funding, $150,000
2018 – 2020	ETH-Zürich PDF, CHF 205, 600 (salary + research expenses)
2018 – 2020	NSERC PDF, $90,000 (research expenses to supplement ETH-Zürich PDF)
2015 – 2018	NSERC PGS D, $63,000 (PhD stipend)
2015 – 2018	UW President's Graduate Scholarship, $30,000 (PhD stipend)

Awards & Distinctions

2018	William B. Pearson Medal for Creative Doctoral Thesis
2018	Nominee, Alice Wilson Award
2017	Biology Department Teaching Assistantship (TA) Award
2016	Waterloo Institute for Nanotechnology – Nanofellowship
2016	Philip Jones Award for Best Student Presentation
2016	Allan Holmes Scholarship (Grand River Conservation Foundation)
2016	Biology Graduate Symposium – People's Choice Award
2016	Society of Toxicology and Chemistry (SETAC) North America Travel Award
2016 and 2017	Graduate Student Research Travel Assistantship, Department of Biology, UW
2015 – 2016	Ontario Graduate Scholarship (declined upon receipt of NSERC)
2015	Golder Associates Graduate Scholarship
2014	RBC Water Scholars Graduate Entrance Scholarship
2013	Sanford Fleming TA Award
2006 – 2011	Queen Elizabeth II Aiming for the Top Scholarship
2006	President Entrance Scholarship, University of Waterloo
2006	Faculty of Engineering Entrance Scholarship, University of Waterloo

Peer-Reviewed Publications

12. **Arlos M.J.,** Schürz, F., Fu, Q., Lauper, B., Stamm, C., and Hollender, J. (2020). Coupling river concentration simulations with a toxicokinetic model effectively predicts the internal oncentrations of wastewater-derived micropollutants in field gammarids. Environ. Sci. Tech. 54 (3):1710-1719
11. Fattahi, A., Liang, R., Kaur, A., Schneider, O., **Arlos. M.J.,** Peng P., Servos, M., Zhou, N. (2019) Photocatalytic degradation using TiO2-graphene nanocomposite under UV-LED illumination: Optimization using response surface methodology. J. Environ. Chem.Eng., 7(5): 103366.
10. **Arlos M.J.,** Parker, W.J., Bicudo, J. R., Law, P., Hicks, K.A., Fuzzen, M.L.M, Andrews, S.A., and Servos, M.R., (2018) Modeling the exposure of wild fish to endocrine active chemicals: linkages of total estrogenicity to field-observed intersex. Wat. Res. 139:187-197.
9. **Arlos, M.J.,** Parker, W.J., Bicudo, J.R., Law, P., Marjan, P., Andrews, S.A., and Servos, M.R. (2018). Multi-year prediction of estrogenicity in municipal wastewater effluents. Sci. Tot. Environ. 610-611:1103- 1112.
8. **Arlos, M.J.,** Liang, R., Fong L.C.L., Zhou, N.Y., Andrews, S. A., Servos, M.R. (2017) Influence of methanol when used as a water-miscible carrier of pharmaceuticals in TiO2 photocatalytic degradation experiments. J. Environ. Chem. Eng., 5(5): 4497-4504.
7. Liang, R., Fong, L.C.L., **Arlos, M.J.,** Van Leeuwen, J., Shahnam, E., Peng, P., Servos, M., Zhou, Norman Y. (2017) Photocatalytic degradation using one-dimensional TiO2 and Ag-TiO2 nanobelts under UV-LED controlled periodic illumination. J. Environ. Chem. Eng. 5(5):4365-4373
6. Hatat-Fraile M. M., Liang. R., **Arlos, M.J**., He, R. X., Peng. P., Servos, M.R., Zhou, N. Y. (2017) Concurrent photocatalytic and filtration processes using doped TiO2 coated quartz fiber membranes in a photocatalytic membrane reactor. Chem. Eng. J. 330(1), 531-540
5. Hicks, K.A., Fuzzen, M.L.M., McCann, E.K., **Arlos, M.J.,** Bragg, L.M., Kleywegt, S., Tetreault, G.R., McMaster, M.E. and Servos, M.R. (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.
4. **Arlos, M.J.,** Liang, R., Hatat-Fraile, M.M., Bragg, L.M., Zhou, N.Y., Servos, M.R. and Andrews, S.A. (2016) Photocatalytic decomposition of selected estrogens and their estrogenic a by UV-LED irradiated TiO2 immobilized on porous titanium sheets via thermal-chemical oxidation. J. Hazard. Mater. 318(1), 541-550.
3. **Arlos, M.J.,** Hatat-Fraile, M.M., Liang, R., Bragg, L.M., Zhou, N.Y., Andrews, S.A. and Servos, M.R. (2016) Photocatalytic decomposition of organic micropollutants using immobilized TiO2 having different isoelectric points. Water Res. 101, 351-361.
2. **Arlos, M.J.,** Bragg, L.M., Parker, W.J. and Servos, M.R. (2015) Distribution of selected antiandrogens and pharmaceuticals in a highly impacted watershed. Water Res. 72(1), 40-50.
1. **Arlos, M.J.,** Bragg, L.M., Servos, M.R. and Parker, W.J. (2014) Simulation of the fate of selected pharmaceuticals and personal care products in a highly impacted reach of a Canadian watershed. Sci. Tot. Environ. 485–486(1), 193-204

Refereed Proceedings and Abstracts

2. Liang, R., Hatat-Fraile, M., **Arlos, M**., Servos, M., Zhou, Y.N., 2014. TiO_2 nanowires membranes for the use in photocatalytic filtration processes, Nanotechnology (IEEE-NANO), 2014 IEEE 14th International Conference on. IEEE, pp. 975-980.
1. Liang, R., Hatat-Fraile, M., He, H., **Arlos, M.**, Servos, M.R., Zhou, Y.N., 2015. TiO_2 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

1. Arlos, M.J., Parker, W.J., Andrews, S.A., Servos, M.R. 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 at academic conferences

9. **Arlos, M.J.,** Schürz F., Fu, Q., Lauper, B.L., Stamm, C., Hollender, J. Coupling of river and toxicokinetic models effectively predicts the whole-body burden in field gammarids. SETAC North America. November 2019. Toronto, Canada (PDF work)
8. **Arlos, M.J.,** Schürz F., Fu, Q., Lauper, B.L., Stamm, C., Hollender, J. Coupling of river and toxicokinetic models effectively predicts the whole-body burden in field gammarids. 11th IWA Micropol and Ecohazard Conference. October 2019, Seoul, South Korea (PDF work)
7. **Arlos, M.J.,** Parker, W.J.*, Andrews, S.A., Hicks, K.A., Fuzzen, M.L.M., Servos, M.R. 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. October 2017, Chicago, IL. (PhD Work)
6. **Arlos, M.J.*,** Parker, W.J., Andrews, S.A., Hicks, K.A., Fuzzen, M.L.M., Servos, M.R. Modelling the exposure of wild fish species to endocrine active chemicals: linkages of stressor concentrations to intersex. 10th Micropol & Ecohazard Conference. September 2017, Vienna Austria. (PhD Work)
5. **Arlos, M.J.*,** Hatat-Fraile, M., Liang, R., N. Zhou., Andrews, S., Servos, M.R. The useUV-LED irradiated TiO_2 membranes in the treatment of estrogenic compounds and their associated biological activity. Oral presentation at the National Water and Wastewater Conference, November 2016, Toronto, ON (PhD Work).
4. **Arlos, M.J.*,** Hatat-Fraile, Liang, R., M., N. Zhou., Andrews, S., Servos, M.R. Liang, R. The removal of estrogenic compounds and their associated estrogenic activity using UV-LED irradiated TiO_2 membranes. Annual Biology Graduate Symposium. April 2016. Waterloo, Ontario, Canada (PhD Work).
3. **Arlos, M.J.*,** Hatat-Fraile, M., Liang, R., N. Zhou., Andrews, S., Servos, M.R. Assessment of UV-LED/TiO_2 photocatalytic membrane treatment of organic micropollutants using chemical and biological analyses. AWWA: Water Quality Technology Conference, November 2015, Salt Lake City, UT. (PhD Work).
2. **Arlos, M. J**.*, Bragg, L.M., Servos, M.R., and Parker, W.J. Simulation of the fate of selected pharmaceuticals and personal care products in a highly impacted reach of the Grand River Watershed in southern Ontario. Oral presentation at the 41st Annual Aquatic Toxicology Workshop. September 2014, Ottawa, ON. (Master's Work).
1. **Arlos, M.J.***, Bragg, L.M., Servos, M.R., Parker, W.J. Characterization and modeling of antiandrogens and pharmaceuticals in highly impacted reaches of the Grand River watershed. Oral and poster presentations at the 5th Annual Workshop on Control of Emerging Contaminants in Water and Wastewater Treatment Systems, June 2013, Waterloo, ON. (Master's Work).

Invited Talks

4. **Arlos, M.J.** "My academic job interview journey". Eawag Postoctoral and Scientist Association Professional Development Series. March 6, 2020. Dübendorf, Switzerland.
3. **Arlos, M.J**., "Modeling the exposure of wild fish to endocrine disrupting chemicals: linkages of stressor concentrations to intersex". November 9, 2017. Swiss Federal Institute of Aquatic Science and Technology (Eawag), Dubendorf, Switzerland. (International; Ph.D. Work).
2. **Arlos, M.J.,** Liang, R., Hatat-Fraile, M., N. Zhou., Andrews, S., Servos, M.R. Bench-scale treatment of selected pharmaceuticals and endocrine disrupting compounds using UV-LED irradiated TiO_2 immobilized on porous supports. Oral presentation at the 14th International Forum on Micro-Nano Manufacturing Technology for Graduate Students (Beihang University). July 2017, Beijing, China (International; Ph.D. Work).
1. **Arlos, M.J.,** Liang, R., Hatat-Fraile, M., N. Zhou., Andrews, S., Servos, M.R. Photocatalytic decomposition of estrogens and associated estrogenic activity using immobilized TiO_2. Oral presentation at the Waterloo Institute of Nanotechnology (WIN) Graduate Student Seminar Series. March 21, 2017, Waterloo, Ontario, Canada (University level; Ph.D. Work).

Poster Presentations at academic conferences

9. Lauper, B., Anthamatten E., Dax, A., **Arlos, M.J.,** Singer, H., Hollender, J. Micropollutant Distribution Dynamics in a Small Creek: From Water to Aquatic Invertebrates. IBP PhD Congress, April 2020, Zürich, Switzerland.
8. **Arlos, M.J.*,** Liang, R., Hatat-Fraile, M., N. Zhou., Andrews, S., Servos, M.R. The removal of endocrine disrupters using TiO_2 immobilized on porous titanium sheets. SETAC World Congress, November 2016, Orlando, FL. (International; PhD Work)
7. **Arlos, M.J.*,** Hatat-Fraile, M., Liang, R., Andrews, S., Servos, M.R. The removal of biological activity using UV/TiO_2 photocatalysis. Poster presentation at the 41st Annual Aquatic Toxicology Workshop September 2014, Ottawa, ON. (PhD Work).
6. Bragg, L.M.*, **Arlos, M.J.**, McCann, K.E., and Servos, M.R. (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 41st Annual Aquatic Toxicology Workshop, September 2014, Ottawa, ON. (Master's Work).
5. Liang, R.*, Hatat-Fraile, M., **Arlos, M.J.**, Servos, M.R., Zhou, Y.N. (2014) TiO_2 nanowire membranes for photocatalytic filtration. Oral Presentation at the IEEE Nano, 14th International Conference on Nanotechnology, August 2014, Toronto, ON (PhD Work).
2. Hatat-Fraile, M.*, Liang, R., **Arlos, M.J.,** and Zhou, Y. N., (2014) Photocatalytic membranes for the treatment of refractory organic pollutants. Oral presentation at 49th Central Canadian Symposium in Water Quality Research, March 2014, Niagara-on-the-Lake, ON (Regional; PhD Work).
5. **Arlos, M.J.***, Bragg, L.M., Servos, M.R., Parker, W.J. The spatial distribution of selected antiandrogens and pharmaceuticals during low flow conditions in the Grand River watershed. SETAC North America 34th Annual Meeting, November 2013, Nashville, TN. (Master's Work).
3. **Arlos, M.J.***, Bragg, L.M., Servos, M.R., Parker, W.J. Characterization and modeling of antiandrogens and pharmaceuticals in highly impacted reaches of the Grand River watershed. 5th Annual Workshop on Control of Emerging Contaminants in Water and Wastewater Treatment Systems, June 2013, Waterloo, ON. (Master's Work).
1. **Arlos, M.J.***, Bragg, L.M., Servos, M.R., Parker, W.J. Spatio-temporal distribution and modeling of selected antiandrogens. Poster presentation at the Water Institute 2013 Distinguished Lecture*,* May 2013, Waterloo, ON. (Institutional; Master's Work).

Teaching Experience and Mentorship

Feb – Apr 2019	Course Assistant, Modeling Aquatic Ecosystems, Department of Environmental Systems Science, ETH-Zurich, Switzerland
Apr – Aug 2017	Sessional Lecturer, Advanced Mathematics: Introduction to Water Quality Modeling, Civil and Environmental Engineering, University of Waterloo,
Mar – June 2017	Canada
Sept – Dec 2015/16	Water Mentor, Aquahacking 2017, Water Institute, Waterloo, Canada
	Teaching Intern, WATER 602, Collaborative Water Program, University of
2011, 2013-2017	Waterloo, Canada
	Teaching Assistant (12 semesters total), Environmental Toxicology, Immunology, Plant Biology, Environmental Resource Management, and Environmental Chemistry, Departments of Biology and Civil/Environmental Engineering, University of Waterloo, Canada

Co-Supervision of Highly Qualified Personnel

Jan – Mar 2020	Training of PhD students for toxicokinetic modeling and Python programming software (Benedikt Lauper and Johannes Raths), Eawag, Dübendorf, Switzerland
Mar – Aug 2019	Co-supervised a Master thesis student (Florian Schurz), ETH-Zürich, Department of Environmental Systems Science, Zürich, Switzerland. Thesis Title: “Uptake and depuration of a mixture of pharmaceuticals in gammarids a comparison of lab-derived and modeled toxicokinetic rate constants”.
Sept – Oct 2018	Supervised a Research Assistant (Benedikt Lauper) for environmental analysis of samples (water, passive samples, and biota) Eawag, Dübendorf, Switzerland

Professional Activities

- **Invited reviewer for scientific journals**: Water Research, Environmental Science and Technology, Environmental Science: Water Research and Technology, Water Resources Research, Environmental Toxicology and Chemistry, Science of the Total Environment
- **Professional memberships**: American Water Works Association (AWWA), Water Environment Federation (WEF), International Water Association (IWA), Water Environment Association of Ontario (WEAO), & Society of Environmental Toxicology and Chemistry (SETAC)

Specialized Training and Workshops

- Water Quality Modelling Training (Water Quality Simulation Program, WASP) by US Environmental Protection Agency, July 2016, Atlanta, Georgia
- CALUX Bioassay Training by the Biodetection Systems, April 2015, Amsterdam
- LC/MS Training Course by Agilent Technologies, June 2014, Chicago, Illinois.

Media Articles

- Making connections beyond the classroom" by the Water Institute, University of Waterloo, May 2, 2018. An article that outlines my journey as a Collaborative Water Program student and the impacts it had on my current postdoctoral research work. Link: https://goo.gl/p3oZUk

- "Water connections – from Canada to the Philippines" by Sylvie Spraakman, Waterlution July 14, 2017. A blog article describing the high school scholarship program I initiated in the Philippines to promote awareness of local watershed issues. Link: https://goo.gl/N5S636

Co-operative Program Workplace Experience (completed during the bachelor's degree)

2009, 2010, 2011	Junior Environmental Professional, SNC Lavalin Environment, Burnaby, BC
Jan 2009 – Apr 2009	Environmental Engineering Assistant, Dillon Consulting Ltd., London, ON
May 2008 – Aug 2008	Environmental Engineering Assistant, Engconsult Ltd., Brampton, ON
Sept 2007 – Dec 2007	Environmental Engineering Assistant, Terraprobe Ltd., Brampton, ON
Jan 2007 – Apr 2007	Environmental Engineering Assistant, Nemak of Canada, Essex Aluminum Plant, Windsor, ON

Selected Professional and Community Volunteer Activities

2018 – 2020	Organizer, Science to Policy and Practice Interface (SP2I), Eawag, Dübendordf, Switzerland
2018 – 2020	Organizer, Writing Café, Eawag, Dübendorf, Switzerland
2019 – 2020	Event Organizer, 500WomenScientists, Zürich, Switzerland
2018	Volunteer, Staff, The Flying Croissant Project, Zürich, Switzerland
2017	Volunteer Staff, 4th Water Research Conference – Elsevier/IWA. September 2017, Kitchener, Ontario, Canada
2016 – 2018	Facilitator, Waterloo Writing Centre, Writing Café
2013 – 2018	Volunteer Field Crew Member, Servos Lab Group, Biology, University of Waterloo
2017	Content Contributor, GRADventure Program
2017	Sponsor, The Future of Negros Water Scholarship
2016	Volunteer Kitchen Staff, Queen Street Commons Café
2014 – 2016	Conference and outreach organizer, Students of the Water Institute Graduate Section (SWIGS)