

CURRICULUM VITAE
RENÉ SAHBA SHAHMOHAMADLOO

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EDUCATION

- PhD** Aquatic Toxicology, University of Guelph 2021
Dissertation: "The toxicology of microcystins in freshwater organisms of the Great Lakes"
Supervisor: Paul K. Sibley
Committee: Evan D. G. Fraser, Ryan S. Prosser, Satyendra P. Bhavsar
- MSc** Environmental Toxicology, University of Guelph 2016
Dissertation: "Evaluating the effects of triclosan on field crops and arbuscular mycorrhizal fungi in biosolids-amended soil"
Supervisor: Paul K. Sibley
Committee: Keith R. Solomon, Paul Voroney, Kari E. Dunfield
- BSc** Honours Toxicology, University of Guelph 2014

PROFESSIONAL APPOINTMENTS

- Postdoctoral Fellowship, Department of Integrative Biology, University of Guelph 2021-2022

PUBLICATIONS

Refereed Journal Articles

1. Prosser RS, Lissemore L, **Shahmohamadloo RS**, Sibley PK. 2015. Effect of biosolids-derived triclosan and triclocarban on the colonization of plant roots by arbuscular mycorrhizal fungi. *Sci Total Environ.*
2. **Shahmohamadloo RS**, Lissemore L, Prosser RS, Sibley PK. 2016. Evaluating the effects of triclosan on three field crops grown in four formulations of biosolids. *Environ. Toxicol. Chem.*
3. **Shahmohamadloo RS**, Lissemore L, Prosser RS, Sibley PK. 2017. Comparative evaluation of four biosolids formulations on the effects of triclosan on plant-arbuscular mycorrhizal fungal interactions in three crop species. *Sci. Total Environ.*
4. Gene SM, **Shahmohamadloo RS**, Ortiz X, Prosser RS. 2019. Effect of *Microcystis aeruginosa*-associated microcystin-LR on the survival of 2 life stages of freshwater mussel (*Lampsilis siliquoidea*). *Environ. Toxicol. Chem.*
5. **Shahmohamadloo RS**, Ortiz Almirall X, HOLETON C, Bhavsar S, Poirier DG, Sibley PK. 2019. Adopting a culture technique to produce and sustain high concentrations of microcystins by *Microcystis aeruginosa* in laboratory. *MethodsX.*
6. **Shahmohamadloo RS**, Ortiz Almirall X, Bhavsar S, Poirier DG, Sibley PK. 2020. Assessing the toxicity of cell-bound microcystins on freshwater pelagic and benthic invertebrates. *Ecotox. Environ. Safe.*
7. **Shahmohamadloo RS**, Simmons DBD, Sibley PK. 2020. Shotgun proteomics analysis reveals sub-lethal effects in *Daphnia magna* exposed to cell-bound microcystins produced by *Microcystis aeruginosa*. *Comp. Biochem. Phys. D.*

8. Tabatabaei Anaraki M, **Shahmohamadloo RS**, Sibley PK, MacPherson KA, Bhavsar SP, Simpson AJ, Ortiz Almirall X. 2020. Optimization of an MMPB Lemieux Oxidation method for the quantitative analysis of microcystins in fish tissue by LC-QTOF MS. *Sci Total Environ*.
9. **Shahmohamadloo RS**. 2020. Mentoring with trust. *Science*.

Manuscripts in Review and Revision

10. **Shahmohamadloo RS**, Febria CM, Fraser EDG, Sibley PK. 2021. The Sustainable Agriculture Imperative: The need for an Agrosystem Approach to Meet the United Nations Sustainable Development Goals by 2030. *Integr. Environ. Asses*.
11. **Shahmohamadloo RS**, Ortiz Almirall X, Simmons DBD, Lumsden JS, Bhavsar SP, Watson-Leung T, Hankins G, Hubbs K, Konopelko P, Sanarcki M, Strong D, Vander Eyken A, Sibley PK. 2021. Microcystins in both intracellular and extracellular states can cause disease-related effects in Rainbow Trout (*Oncorhynchus mykiss*). *Environ. Sci. Technol*.
12. **Shahmohamadloo RS**, Ortiz Almirall X, Simmons DBD, Bhavsar SP, Poirier DG, Sibley PK. 2021. Fish tissue accumulation and proteomic response to cyanobacterial toxins is species-dependent. *Chemosphere*.
13. Guo Y, O'Brien AM, Lins TF, **Shahmohamadloo RS**, Ortiz Almirall X, Rochman CM, Sinton D. 2021. The Effects of Hydrogen Peroxide on Cyanobacterium *Microcystis aeruginosa* in the Presence of Nanoplastics. *ACS ES&T Water*.
14. Hataley EK, Ortiz Almirall X, Rochman CM, **Shahmohamadloo RS**, Orihel DM. 2021. Sorption of a common freshwater cyanotoxin to microplastics. *ACS ES&T Water*.

Manuscripts in Preparation

15. **Shahmohamadloo RS**, Bhavsar SP, Ortiz Almirall X, Tabatabaei Anaraki M, Marklevitz SAC, Sibley PK. 2021. Human health risks from consuming fish caught during non-bloom periods in a waterbody that regularly experiences cyanobacteria.
16. Knight AK, **Shahmohamadloo RS**, Bhavsar SP, Ortiz Almirall X, Sibley PK. 2021. Evidence of a transgenerationally developed microcystin toxin tolerance in *Daphnia magna*.

Other Publications

1. **Shahmohamadloo RS**. 2016. Gateway. Afán Library Trust, UK.

GRANTS AND FELLOWSHIPS

2021-2022	Postdoctoral Fellowship, Department of Integrative Biology, University of Guelph	\$50,000
2020	Food System Vision Prize, Rockefeller Foundation (Semi-Finalist)*	\$200,000
2020	IAGLR Scholarship, International Association for Great Lakes Research	\$2,000
2018-2019	Ontario Graduate Scholarship, Province of Ontario	\$30,000
2018	Fisheries Research Grant, Ontario Federation of Anglers and Hunters	\$4,000
2017-2018	Doctoral Research Scholarship, NSERC CREATE	\$48,000
2016-2018	University Graduate Scholarship, University of Guelph	\$9,000
2016	Graduate Excellence Entrance Scholarship, University of Guelph	\$30,000
2015	Dean's Scholarship, University of Guelph	\$500
2014	Research Scholarship, Ontario Soil and Crop Improvement Association	\$1,000

*Co-PI. Did not win grant but was selected as one of 75 semi-finalists from 1,300 applicants worldwide

AWARDS AND HONOURS

2016, 2018	Student Travel Award, SETAC North America	\$1,000
2016	Best Presenter Award (2 nd Place), SETAC North America	\$500
2013	André Auger Citizenship Award, University of Guelph	
2011	International Film Contest Winner, Tony Blair Institute for Global Change	

INVITED TALKS

“Human health risks to cyanotoxins from consuming fish caught in Lake St. Clair”, Ontario Ministry of Natural Resources and Forestry, Ontario, Canada (May 10)	2021
“The toxicology of microcystins in freshwater organisms of the Great Lakes”, Department of Biology, Queen’s University, Ontario, Canada (February 4)	2021
“Reimagining Food Systems: Driving Action for a Post-COVID World”, Rockefeller Foundation and EAT Foundation, Oslo, Norway (June 30)	2020
“ <i>Microcystis aeruginosa</i> impacts aquatic biota: Risks to Great Lakes users”, Ontario Federation of Anglers and Hunters Fisheries Advisory Committee, Ontario, Canada (September 7)	2018

CONFERENCE ACTIVITY/PARTICIPATION**Conferences/Symposia Organized**

Interdisciplinary Freshwater Harmful Algal Blooms Webinar: The Future of Freshwater Harmful Algal Blooms Research, Québec, Canada, 250-300 participants (June 8-9)	2021
4 th Interdisciplinary Freshwater Harmful Algal Blooms Workshop, Ontario, Canada, 100-150 participants (April 20-22) - <i>cancelled due to Covid-19</i>	2020
3 rd Interdisciplinary Freshwater Harmful Algal Blooms Workshop, Ontario, Canada, 100-150 participants (April 24-26)	2019
2 nd Interdisciplinary Freshwater Harmful Algal Blooms Workshop, Ontario, Canada, 100-150 participants (April 16-18)	2018
Kenneth Hammond Lecture & Spring Sustainability Symposium, University of Guelph, Ontario, Canada, 50-100 participants (March 25)	2018
Kenneth Hammond Lecture & Spring Sustainability Symposium, University of Guelph, Ontario, Canada, 50-100 participants (April 19)	2017

Panels Organized

“Harmful algal bloom toxins in biota of the Great Lakes”, Canadian Ecotoxicity Workshop, University of Guelph, Ontario, Canada (October 1-4)	2017
“The Science and Policy of Multiple Stressors and Cumulative Effects in the Great Lakes”, IAGLR 60 th Conference (Virtual), Wayne State University, Michigan, USA (May 15-19)	2017

Invited Panelist

“The state of Great Lakes research in the face of COVID-19”, IAGLR 63rd Conference (Virtual), Winnipeg, Manitoba, Canada (June 9-11) 2020

Conference Presentations

Microcystins in both intracellular and extracellular states can cause disease-related effects in Rainbow Trout (*Oncorhynchus mykiss*). IAGLR 64th Conference (Virtual), Michigan Technological University, Michigan, USA (Talk) 2021

Distinguishing the toxicokinetics between intracellular and extracellular microcystin exposure to Rainbow Trout (*Oncorhynchus mykiss*). SETAC North America 41st Annual Meeting, SciCon2, Waco, Texas, USA (Talk) 2020

Shotgun proteomics analysis reveals sub-lethal effects in *Daphnia magna* exposed to cell-bound microcystins produced by *Microcystis aeruginosa*. IAGLR 63rd Conference (Virtual), Winnipeg, Manitoba, Canada (Poster) 2020

Transgenerational development of microcystin toxin tolerance in *Daphnia magna*. IAGLR 63rd Conference (Virtual), Winnipeg, Manitoba, Canada (Talk) 2020

Building Resiliency in Agricultural Landscapes: A Conceptual Framework Focused on Risk Management. SETAC Europe 28th Annual Meeting, Dublin, Leinster, Ireland (Poster) 2020

Assessing the differences in uptake and depuration potential of intra- and extracellular microcystins in *Salvelinus namaycush* and *Oncorhynchus mykiss*. SETAC North America 40th Annual Meeting, Toronto, Ontario, Canada (Poster) 2019

An efficient and affordable laboratory method to produce and sustain high concentrations of microcystins by *Microcystis aeruginosa*. SETAC North America 40th Annual Meeting, Toronto, Ontario, Canada (Poster) 2019

Can microplastics act as a medium to concentrate waterborne microcystin? SETAC North America 40th Annual Meeting, Toronto, Ontario, Canada (Poster) 2019

Effect of *Microcystis aeruginosa*-associated microcystin-LR on the survival of 2 life stages of freshwater mussel (*Lampsilis siliquoidea*). Canadian Freshwater Mollusc Research Meeting, Burlington, Ontario, Canada (Talk) 2019

Microcystis aeruginosa adversely impacts *Daphnia* spp.: Posing risks to food webs of the Great Lakes. SETAC North America 39th Annual Meeting, Sacramento, California, USA (Poster) 2018

Microcystis aeruginosa adversely impacts *Daphnia* spp.: Posing risks to food webs of the Great Lakes. IAGLR 61st Conference, Toronto, Ontario, Canada (Talk) 2018

Microplastics can adsorb microcystins. Interdisciplinary Freshwater Harmful Algal Blooms Workshop 2nd Annual Meeting, Toronto, Ontario, Canada (Talk) 2018

Proteome responses of microcystin-exposed *Daphnia magna*. Interdisciplinary Freshwater Harmful Algal Blooms Workshop 2nd Annual Meeting, Toronto, Ontario, Canada (Talk) 2018

A resourceful approach to managing sewage sludge: An effects-based look at the micro-constituents in land-applied biosolids. FarmSmart Conference: Municipal Biosolids Beneficial Use Education Day, Milton, Ontario, Canada (Talk) 2017

Evaluating the effects of triclosan on field crops and arbuscular mycorrhizal fungi in biosolids-amended soil. Water Environment Association of Ontario Annual Residuals and Biosolids Conference, Calgary, Alberta, Canada (Talk) 2016

Evaluating the effects of triclosan on field crops and arbuscular mycorrhizal fungi in biosolids-amended soil. SETAC North America 36th Annual Meeting, Salt Lake City, Utah, USA (Talk) 2015

Evaluating the effects of triclosan on field crops and arbuscular mycorrhizal fungi in biosolids-amended soil. Canadian Ecotoxicity Workshop 41st Annual Meeting, Ottawa, Ontario, Canada (Talk) 2014

TEACHING EXPERIENCE**Courses Taught**

2017-2019 Teaching Assistant. Project in Environmental Sciences (ENVS4001, ENVS4002), UOG
 2016 Teaching Assistant. Pesticides and the Environment (ENVS3020), UOG

Mentoring Research Projects

2020-2021 Megan Duchesne - Assessing genetic variation in *Daphnia* exposed to toxic *Microcystis*
 2020-2021 Kennedy Hanczyk - Assessing genetic variation in *Daphnia* exposed to toxic *Microcystis*
 2020-2021 Talia Hoffman - Assessing genetic variation in *Daphnia* exposed to toxic *Microcystis*
 2020-2021 Rebecca Smart - Assessing genetic variation in *Daphnia* exposed to toxic *Microcystis*
 2019-2020 Gabrielle Hankins - Differentiating toxicity of intra- and extracellular microcystins in fish
 2019-2020 Kate Hubbs - Differentiating toxicity of intra- and extracellular microcystins in fish
 2019-2020 Polina Konopelko - Differentiating toxicity of intra- and extracellular microcystins in fish
 2019-2020 Michael Sanarcki - Differentiating toxicity of intra- and extracellular microcystins in fish
 2019-2020 Damon Strong - Differentiating toxicity of intra- and extracellular microcystins in fish
 2019-2020 Angela Vander Eyken - Differentiating toxicity of intra- and extracellular microcystins in fish
 2018-2020 Alexis Knight - Generational adaptability of *Daphnia* to microcystins
 2018 Samantha Gene - Health impacts on freshwater mussels exposed to microcystins

RESEARCH EXPERIENCE

2016-2021 Graduate Researcher (PhD). Ministry of the Environment, Conservation and Parks (Sibley PK, Poirier DG, Bhavsar SP, Ortiz Almirall X, Simmons DBD, Watson-Leung T)
 2016 Research Technician. University of Guelph (Sibley PK)
 2014-2016 Graduate Researcher (MSc). University of Guelph (Sibley PK)
 2011 Undergraduate Research Assistant. University of Guelph (Auzanneau FI)

SERVICE TO PROFESSION**Departmental**

2018-2020 Undergraduate Curriculum Committee, School of Environmental Sciences
 2016-2020 Communications and Outreach Committee, School of Environmental Sciences
 2016-2020 Organizing Committee for Kenneth Hammond Lecture & Spring Sustainability Symposium
 2019 Organizing Committee for Departmental 10th Anniversary, School of Environmental Sciences
 2017-2018 Search Committee, School of Environmental Sciences

External

2017-present Organizing Committee for Interdisciplinary Freshwater Harmful Algal Blooms Workshop

Referee

2017-present Chemosphere (1), Ecotoxicology and Environmental Safety (14), Environmental Pollution (4), Environmental Science and Pollution Research (2), Freshwater Biology (1), Harmful Algae (1), Journal of Hazardous Materials (4), Journal of Industrial and Engineering Chemistry (1), Neurotoxicity Research (1), Science of the Total Environment (17)

COMMUNITY INVOLVEMENT/OUTREACH

2015-2016 Guest Teacher, Westwood Public School, Upper Grand District School Board, Ontario, Canada. Mentored 50 seventh and eighth grade students using course materials below.

2013-2015 Guest Teacher, Gateway Drive Public School, Upper Grand District School Board, Ontario, Canada. Mentored 53 seventh and eighth grade students using course materials below.

2007-2016 Mentor and Trainer, Junior Youth Empowerment Program, Guelph, Ontario, Canada. This program consists of course materials designed to help 11-15 year-old participants develop their capacity to make observation statements about the physical and social realities of their community, and from these statements identify ways to contribute to its progress through service projects.

MEDIA COVERAGE

2020 Farmtario. [University proposal among food system prize semifinalists.](#)

2020 University of Guelph News. [PhD Candidate Pens Commentary for Science.](#)

2020 University of Guelph News. [U of G Future Food Vision a Semi-Finalist for International Prize.](#)

2020 One Health Institute, University of Guelph. [Student Spotlight: René Sahba Shahmohamadloo.](#)

2020 School of Environmental Sciences, University of Guelph. [New research shows invertebrates can be harmed by cyanobacteria.](#)

2018 Council of Ontario Universities. [Research Matters: Fourth-year course builds partnerships between students and communities.](#)

2016 Influents. Municipal Biosolids Beneficial Use Education Day. p. 69.

2016 The AgriNews. Triclosan not a threat. p. 37.

2016 Ontario Farmer. Off-cited biosolids risk disproven. p. B19.

2016 AGCanada. [Triclosan not a threat to food chain: study addresses concerns about treated sewage as fertilizer.](#)

LANGUAGES

English	Native proficiency
French	Limited working proficiency
Persian	Limited working proficiency

PROFESSIONAL MEMBERSHIPS

2017-present Member, International Association for Great Lakes Research

2015-present Member, Society of Environmental Toxicology and Chemistry for North America

2015-present Member, Laurentian Chapter for the Society of Environmental Toxicology and Chemistry

PROFESSIONAL DEVELOPMENT

- 2020 Principles of Belonging: Anti-Oppression and Anti-Racism Training, University of Guelph
- 2019 Graduate Research and Project Management (Certificate course), University of Guelph
- 2018 University Teaching: Theory and Practice (Credit course), University of Guelph
- 2017 Diversity and Human Rights Faculty Recruitment, University of Guelph
- 2017 Laboratory Technician Training, Aquatic Toxicology Unit, Ministry of the Environment, Conservation and Parks