

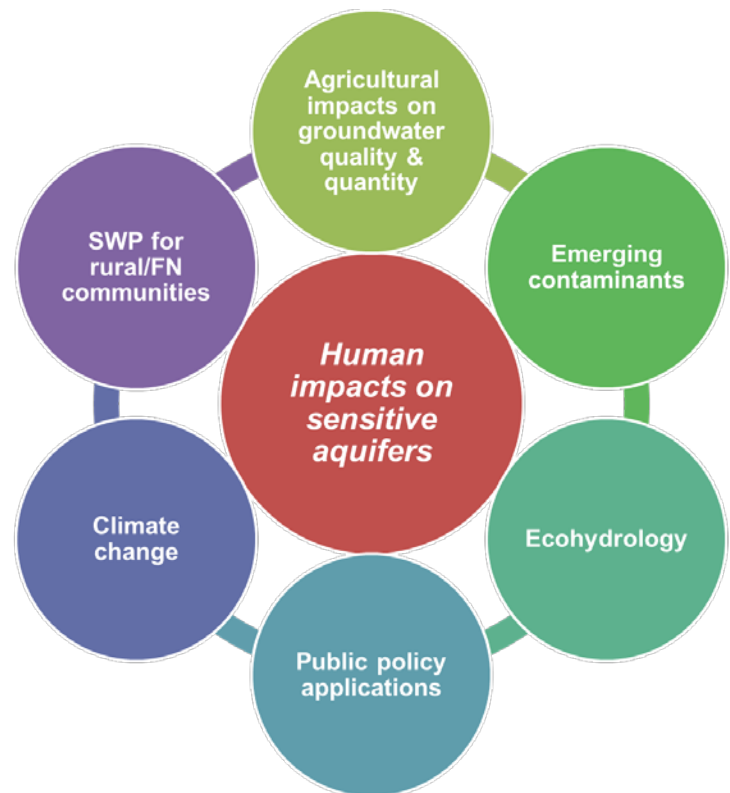


Dr. Jana Levison

Assistant Professor
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Dr. Jana K. Levison has a bachelor's degree in Civil Engineering (environmental option) and a Ph.D. in Civil Engineering (focus: anthropogenic impacts on fractured bedrock aquifers) from Queen's University. Dr. Levison completed her postdoctoral fellowship at the Université du Québec à Montréal, working on multidisciplinary ecohydrological modeling related to climate change. In 2009-2010 she led engineering and public policy initiatives as the Junior Fellow and Acting Executive Director of the Ontario Centre for Engineering and Public Policy at Professional Engineers Ontario. She has also worked at the Cataraqui Region Conservation Authority on the Drinking Water Source Protection team. Currently Dr. Levison is an Associate Editor for Hydrogeology Journal.

At the University of Guelph Dr. Levison is conducting novel research related to agricultural and climate change impacts on groundwater quality and quantity, with a focus on sensitive aquifers. Other areas of research interest include: source water protection; appropriate potable water approaches for marginalized communities; and fostering engineering and technological input into public discourse.



Research Interests

How our activities impact groundwater



Selected Papers and Theses

Selected Publications

Salek, M., Levison, J., Parker, B., Gharabaghi, B. (2018) CAD-DRASTIC: A modified method for road salt vulnerability analysis in groundwater. *Hydrogeology Journal* (in press).

Larocque, M., Cloutier, V., Levison, J., Rosa, E. (2018) Preface to the Special Issue "Results from the Quebec Groundwater Knowledge Acquisition Program". *Canadian Water Resources Journal* (in press).

Marshall*, R., Levison, J., McBean, E., Brown, E., Harper, S.L. (2018) Source water protection programs and Indigenous communities in Canada and the United States: a scoping review. *Journal of Hydrology*, 562: 358-370.

Persaud*, E., Levison, J., Pehme, P., Novakowski, K., Parker, B. (2018) Cross-hole fracture connectivity assessed using hydraulic responses during liner installations in crystalline bedrock boreholes. *Journal of Hydrology*, 556: 233-246.

Larocque, M., Martin*, A., Levison, J., Chaumont, D. (2018) A review of simulated climate change impacts on groundwater resources in eastern Canada. Resubmitted to *Canadian Water Resources Journal* (TCWR-2017-0081).

Browne*, D., Levison, J., Limay-Rios, V., Novakowski, K., Schaafsma, A. (2018) Neonicotinoids in groundwater: Presence and fate in two distinct hydrogeologic settings in Ontario, Canada. Resubmitted to *Journal of Contaminant Hydrology* (CONHYD_2017_280).

Browne*, D., Levison, J., Limay-Rios, V., Novakowski, K. (2018) A review of the presence and fate of neonicotinoids in the environment with a focus on groundwater. Resubmitted to *Water Quality Research Journal of Canada* (WQRJ-D-17-00018).

Macdonald*, G., Levison, J., Parker, B. (2017) Novel techniques for measuring in-situ groundwater nitrate concentrations, *Groundwater Monitoring & Remediation*, 37(4): 60-70.

Hachborn*, E., Berg, A., Levison, J., Ambadan, J. (2017) Sensitivity of GRACE-derived estimates of groundwater level changes in southern Ontario. *Hydrogeology Journal*, 25(8): 2391-2402.

Levison, J., Larocque, M., Ouellet, M.A., Ferland, O., Poirier, C. (2016) Long-term trends in groundwater recharge and discharge in a fractured bedrock aquifer – past and future conditions. *Canadian Water Resources Journal*, DOI: 10.1080/07011784.2015.1037795.

Betts, A., Gharabaghi, B., McBean, E., Levison, J., Parker, B. (2015) Salt vulnerability assessment methodology for municipal supply wells. *Journal of Hydrology*, 531: 523-533, DOI: doi:10.1016/j.jhydrol.2015.11.004.

Girard, P., Levison, J., Parrott, L., Larocque, M., Ouellet, M.A., Green, D. (2015) Modelling cross-scale relationships between climate, hydrology, and individual animals: Generating scenarios for stream salamanders. *Frontiers Environ. Sci.* 3: 51. DOI: 10.3389/fenvs.2015.0005.

Starr*, G., Levison, J. (2014) Identification of crop groundwater and surface water consumption using blue and green virtual water contents at a subwatershed scale. *Environmental Processes*, 1(4): 497-515, DOI: 10.1007/s40710-014-0040-8.

Levison, J., Larocque, M., Ouellet, M.A. (2014) Modeling low-flow bedrock springs providing ecological habitats with climate change scenarios. *Journal of Hydrology*, 515: 16-28, DOI: dx.doi.org/10.1016/j.jhydrol.2014.04.042.

Conference papers

Marshall*, R., Levison, J., McBean, E. (2017) Towards effective First Nations' Source Water Protection: A groundwater-focus study for decision-making and long-term planning. *GeoOttawa2017, Proceedings of the 70th Canadian Geotechnical Conference and the 12th Joint CGS/IAH-CNC Groundwater Conference, Ottawa, ON.* [Runner-up: Toth Award].

Browne, D., Levison, J., Limay-Rios, V., Novakowski, K., Schaafsma, A. (2017) Groundwater contamination in fractured bedrock and sandy aquifer environments from agricultural neonicotinoid use. *GeoOttawa2017, Proceedings of the 70th Canadian Geotechnical Conference and the 12th Joint CGS/IAH-CNC Groundwater Conference, Ottawa, ON.*

Levison, J., Martin, A., Larocque, M. (2017) Impact of climate change on groundwater availability in Eastern Canada. *GeoOttawa2017, Proceedings of the 70th Canadian Geotechnical Conference and the 12th Joint CGS/IAH-CNC Groundwater Conference, Ottawa, ON.*

Persaud, E., Levison, J., MacRitchie, S., Rixon, S. (2017) Integrated water cycle management in the Great Lakes Basin under changing climate conditions. *GeoOttawa2017, Proceedings of the 70th Canadian Geotechnical Conference and the 12th Joint CGS/IAH-CNC Groundwater Conference, Ottawa, ON.*

Saleem, S., Levison, J., Parker, B., Martin, R. (2017). Simulation of nitrate transport in groundwater from agricultural lands using a field-scale model. *GeoOttawa2017, Proceedings of the 70th Canadian Geotechnical Conference and the 12th Joint CGS/IAH-CNC Groundwater Conference, Ottawa, ON.*

Levison, J. and Novakowski, K. (2011) Rapid transport from the surface to wells: a unique infiltration tracer experiment. *GeoHydro*, 1st Joint Meeting of CANQUA/IAH-CNC, Québec City, Québec (DOC-2148), 28-31 Aug.