

Andrea Kirkwood, PhD

Associate Professor, Faculty of Science at University of Ontario Institute of Technology
Oshawa, ON, CA

Leading aquatic microbial biologist working to understand and preserve ecological systems

Description

Andrea Kirkwood, PhD, knows exactly what's in the water of our rivers, lakes and streams. An aquatic microbial biologist, she has dedicated her life's work to the understanding and preservation of ecological systems, in addition to harnessing biotechnology from aquatic microorganisms.

An inherent curiosity about the world around her and deeper concern for the sustainable health of the environment guided Dr. Kirkwood's education. In 1994, she completed a Bachelor of Environmental Studies (Joint Honours) degree in Environment and Resource Studies and Biology (Co-op), which she received from the University of Waterloo, Ontario. In 1996, she earned her Master of Science degree in Aquatic Ecology at McMaster University, Hamilton, Ontario, where she fell in love with research and the freedom to explore both in the field and the lab. In 2003, Dr. Kirkwood obtained her Doctorate in Environmental Microbiology from the University of Toronto (U of T), Ontario.

Since joining UOIT in 2008, Dr. Kirkwood has been instrumental in developing a new state-of-the-art UOIT Aquatics Lab, which will open in August, 2014. She has worked to strengthen the university's Science programs and she has helped bring a Doctorate of Philosophy in Applied Bioscience degree to the university.

Dr. Kirkwood also serves as an adjunct faculty member in the U of T Graduate Environmental Science program. She previously held the appointments of post-doctoral fellow and research associate in the Alberta Ingenuity Centre for Water Research at the University of Calgary, and post-doctoral fellow at Oklahoma State University.

Industry Expertise

Biotechnology, Education/Learning, Environmental Services, Fishery and Aquaculture, Laboratory Services, Renewables and Environmental, Research

Topics

Algae, algal blooms, Aquatic Ecology, Aquatic Invasive Species, Biofuels and Combustion Emissions, blue-green algae, environmental microbiology, Great Lakes, Lake Ecosystems, river ecosystems, Pollution, Urban Ecosystems, Water Quality

Affiliations

American Society of Limnology and Oceanography, Canadian Society for Ecology and Evolution, Canadian Society of Microbiologists, Ecological Society of America, Global Lake Ecological Observatory Network, North American Lake Management Society, Phycological Society of America, Society of Freshwater Sciences, Society of Canadian Limnologists, Friends of Second Marsh, Canadian Phycological Culture Collection, University of Toronto

Past Talks

Determining the impact of cadaver decomposition on soil microbial communities

63rd Annual Conference of the Canadian Society of Microbiologists

The role of *Cladophora glomerata* as a refuge for fecal and pathogenic bacteria in a near-shore region of Lake Ontario

2013 Annual Conference of the Canadian Society of Microbiologists: Environmental Dimension of Antibiotic Resistance Satellite Symposium

Assessment of wastewater algae for use in biofuel production

BioFuelNet Annual General Meeting

Characterization of stormwater management ponds and their role as a land-water linkage in urban environments

Joint Meeting of the Society of Canadian Limnologists and Society of Wetland Scientists

Characterization of urban stormwater ponds and their role as a cross-ecosystem linkage in urban environments

Society of Freshwater Science

Diversity, function and resilience of microbial communities from urban wetlands

Canadian Society of Microbiologists Conference

The influence of shoreline development and geology on lake water quality in The Land Between Ecotone

Lake Simcoe Science Forum

Water quality characteristics of lakes in The Land Between

The Land Between Science and Stewardship Symposium

The role of urban wetland community structure and function in contaminant fate

37th Annual Aquatic Toxicity Workshop

Education

University of Toronto

PhD Environmental Microbiology

McMaster University

Master of Science Aquatic Ecology

University of Waterloo

Bachelor in Environmental Science Environment and Resource Studies and Biology

Accomplishments

Board of Directors, Friends of Second Marsh

Since 2012, Dr. Kirkwood has been a member of the Board of Directors of Friends of Second Marsh, a not-for-profit charitable organization dedicated to encouraging the protection and appreciation of Second Marsh, a coastal wetland located in Durham Region, other Great Lakes wetlands, our natural heritage system, and to promoting a healthy environment through education, communication, developing partnerships and fostering connections with all sectors of the community.

Scientific Advisory Board, Canadian Phycological Culture Centre

The Canadian Phycological Culture Centre (CPCC) provides research quality cultures, culture medium, and other related services to educational institutions, government and commercial laboratories worldwide. Housed at the University of Waterloo in the Department of Biology, the CPCC is internationally recognized as a major service collection of living freshwater algal, cyanobacterial and Lemna spp. (duckweed) cultures.

Post-doctoral Fellow, University of Calgary

Dr. Kirkwood completed her post-doc work and continued as a research associate supported by grants from the Alberta Conservation Association and Alberta Sustainable Resource Development.

Post-doctoral Fellow, Oklahoma State University

During her two-year post-doctoral fellowship, Dr. Kirkwood studied algal extremophiles at the Salt Plains Microbial Observatory.

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