

SES Fall Seminar Series

Dr. Josh D. Neufeld

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'Enigmatic ammonia-oxidizing archaea from the Guelph Wastewater Treatment Plant'

As an undergraduate student, Roger Knowles (1929-2009) instilled a fascination for the nitrogen cycle in me. Years later, I am privileged to continue this exciting area of research with my students, investigating nitrogen-cycling bacteria and archaea by combining cultivation-based and molecular approaches. In this talk, I will highlight the importance of ammonia oxidizing archaea and profile recent work demonstrating that ammonia-oxidizing archaea dominate aquarium biofilters and wastewater treatment plant nitrifying reactors, especially when ammonia levels are relatively low. Subsequent cultivation of freshwater ammonia-oxidizing archaea from an aquarium filter (*Candidatus Nitrosopurus aquariensis*) and the Guelph wastewater treatment plant (*Candidatus Nitrosofontus exaquare*) reveal metabolic features of these phylogenetically distinct archaea, with surprising implications for their ecological niches and potential roles as keystone microbial community members.

Friday
October 30,
2015
3:30 - 4:30 pm
Alexander Hall
Room 218

All are welcome to attend!



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school of environmental sciences

