

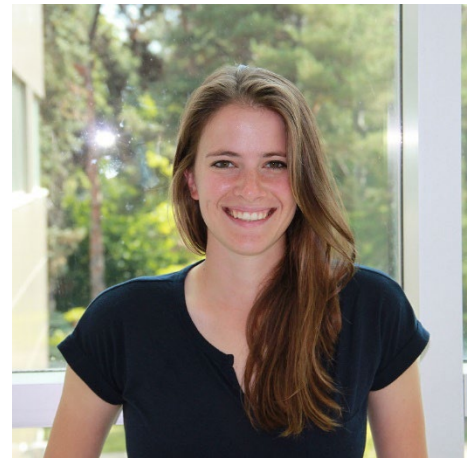
2017 CCUBC Graduate Student Research Prize

Stephanie Jones

McMaster University, Hamilton, ON

[Nomination Document for Stephanie Jones by Dr. Jianping Xu & Dr. Marie Elliot, McMaster University \(PDF\)](#)

This year's CCUBC Graduate Student Research Prize has been awarded to Stephanie Jones for research completed during her PhD at McMaster University in Dr. Marie Elliot's Lab. The Elliot Lab studies *Streptomyces* bacteria - an important source of medicinally useful compounds, including over two thirds of clinically used antibiotics. It has always been thought these bacteria grow rooted in place like plants, and Stephanie discovered that particular growth conditions or interactions with fungi can trigger *Streptomyces* to rapidly



spread over surfaces. This new mode of *Streptomyces* development was termed 'exploratory' behaviour, for the ability of cells to rapidly traverse surfaces and explore new territory. Remarkably, when *Streptomyces* explore, they release airborne signals that tell other *Streptomyces* to begin exploring. This work reveals interspecies interactions can have profound and unexpected effects on microbial growth and development, and demonstrates airborne compounds are capable of inducing microbial morphological switches. Furthermore, this work reveals a new mode of *Streptomyces* development, and may lay the framework for the identification of new antibiotics. This work was published in the open access journal eLife in January 2017.

Stephanie will be defending her PhD in the summer of 2018, and will then join Dr. Mike Laub at the Massachusetts Institute of Technology in fall 2018 as a postdoc. She will continue her work on microbial development and genetics, with a focus on understanding how bacteria process information, receive signals from their environments, and organize their DNA.

