NRESi

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RESEARCH COLLOQUIUM SERIES

Dr. Brian J. Pickles

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Thursday
Feb. 16, 2012

3:30 - 4:30

WELDWOOD THEATRE
7 - 238

TALES FROM THE UNDERGROUND:

MYCORRHIZAS, MIGRATING TREES, AND CLIMATE CHANGE

The idea of climate change conjures up images of polar bears on shrinking ice, rising sea levels and extreme weather events. These are all appropriate concerns in the short-term. However, over longer time-periods climate change will generate large shifts in the distribution of ecosystems, with trees migrating across continents. Even these responses to altered conditions are relatively easy to imagine, but when it comes to below-ground organisms, how do we make predictions about their future distributions?

From the fossil record we know that mycorrhizal symbioses, involving plants and fungi, have occurred since plants arrived on land. Mycorrhizal fungi colonise the roots of host plants, where they exchange nutrients for carbon and provide other important services such as protection from pathogens. It is estimated that over 90% of all plant species form these symbioses.

Environmental changes generate important ecological challenges for symbioses. Here I discuss the potential impacts of climate change on the ectomycorrhizal symbiosis, focusing on Interior Douglas-fir and its fungal partners, which is a vital part of Canada's temperate and boreal forest ecosystems.

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