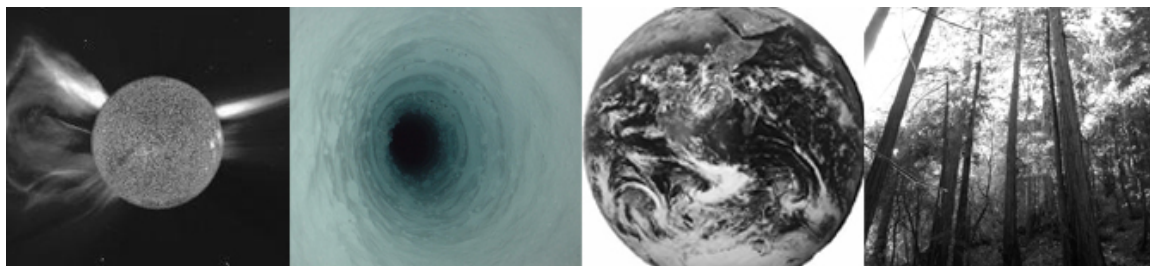


# Environmental Sciences And **CREATE** Seminar Series

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## C isotopes: what can they tell us about soil biology and physics?

**Jocelyn Egan**

**StFX Earth Sciences M.Sc. 2013 - CREATE PhD student at DAL**

Soil respiration is the largest terrestrial flux of CO<sub>2</sub> to the atmosphere. This flux of CO<sub>2</sub> is currently kept in balance by photosynthesis, which assimilates carbon (C) from the atmosphere into plants and the soil. Soils play another important role in the C cycle, as they store more C than both the atmosphere and plant biomass. In the face of a changing climate it is important to understand how soil respiration rates might be affected, and how this will affect soil C storage capacity.

C isotopologues of CO<sub>2</sub>, both stable (<sup>12</sup>C, <sup>13</sup>C) and radioactive (<sup>14</sup>C), are incredibly useful tools for studying C soil dynamics and provide a wealth of information that bulk measurements of C are unable to provide on their own. However, as C isotopic analysis technology advances it is important that the research community understand what drives changes to C isotopic signatures, and the pitfalls of the measurements.

This seminar will touch on what type of information can be obtained from these measurements, and how a physical soil-gas transport model can help tease out biological changes from physical changes.

All are welcome.

Thursday, **April 3<sup>rd</sup>**, 2014

1:15 – 2:05PM

Physical Sciences Centre 2045



**CREATE**

NSERC CREATE Training Program  
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