

# Séminaire de Laura Lapham au LSCE

**Name :** Séminaire de Laura Lapham au LSCE

**Title :** Quantifying temporal changes in dissolved methane in various aqueous environments

**Laboratory :**

**Name of the speaker :**

**Affiliation :**

**Date and time :** 07-11-2019 11h00

**Location :** Orme des merisiers, salle 1129 du bâtiment 714

**Summary :**

Although it is known that lakes and estuaries emit methane to the atmosphere, the variability of this flux over space and time is not well understood. These environments are typically organic-rich, which fuels methanogenesis in the anoxic sediments, and have relatively shallow water columns, allowing bubbles to directly reach the atmosphere. Some lakes and estuaries also undergo bottom water anoxia during certain times of the year, which then allows for methane to build up in bottom waters and be released suddenly to the atmosphere under dynamic, event-driven episodes. In order to capture such dynamics and understand both physical and microbiological processes affecting methane emissions to the atmosphere, we use OsmoSamplers to autonomously and continuously collect water samples for up to one year. Here, I am presenting the resultant methane concentration and stable carbon isotope ratio time-series data from a highly eutrophic estuary and an Arctic Lake. In both cases, the physical dynamics of the water bodies control the capture and release of methane diffusing out of the anoxic sediments. By obtaining such high resolution samples, we show that these environments could release more methane than captured in intermittent sampling events.

**Contact :**

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