



Chemical & Physical Sciences  
**UNIVERSITY OF TORONTO**  
MISSISSAUGA

**COLLOQUIUM**  
**TUESDAY, 24 FEBRUARY 2015**  
**11:00 AM - 12:00 NOON**  
**KN132**

**Dr. Anne de Vernal**  
*Université du Québec à Montréal*  
*Centre GEOTOP*

**Natural variability of sea ice cover  
in the Arctic and subarctic seas  
documented from sedimentary archives**



The reconstruction of sea ice time series beyond instrumental observation is necessary to document the full range of sea ice variations under natural forcing. Several approaches based on biogenic, geochemical or sedimentological proxies have been developed from marine sediments. Among those, the assemblages of organic-walled dinoflagellate cysts (=dinocysts) permit quantitative estimates of sea ice cover concentration. Reconstructions from the Canadian Arctic

Archipelago illustrate dense sea ice cover throughout the Holocene (last 11 000 years), which contrast with those from the Chukchi and Barents Sea that show large amplitude variations and suggest millennial-scale oscillations with a pacing almost opposite in western vs. eastern Arctic. The overall data available illustrate the natural variability, but also the resilient character of the Arctic sea ice through time.