



UNIVERSITY OF  
TORONTO

THE 2023 NOBLE LECTURES

# GREENHOUSE GAS MEASUREMENTS FROM SPACE: GETTING TO PRECISE AND USEFUL OBSERVATIONS

**MONDAY MAY 15, 3:00 – 4:00 PM EDT, MP103**

Special Colloquium: The Ambitious Project  
of Measuring Carbon Dioxide from Space

Reception to follow in MP110

**TUESDAY MAY 16, 11:00 AM – 12:00 PM EDT, KP108**

NASA's Orbiting Carbon Observatories: Finding That One in a Million

**WEDNESDAY MAY 17, 11:00 AM – 12:00 PM EDT, KP108**

The New Generation of Spaceborne Methane Plume Finders:  
Can You See Cow Farts from Space?

**THURSDAY MAY 18, 11:00 AM – 12:00 PM EDT, KP108**

The Cutting Edge of Ground-Based Measurements:  
Frequency Combs and Cavity Ringdown Spectrometers

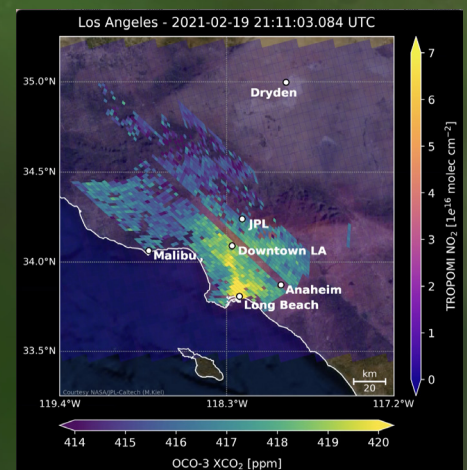
**FRIDAY MAY 19, 11:00 AM – 12:00 PM EDT, KP108**

Atmospheric Greenhouse Gas Measurements in the Context  
of International Policy: Putting Scientific Observations to Use

Refreshments will be served half an hour prior to each morning lecture in  
the lobby, just outside the lecture room.



**DR. ANNMARIE ELDERING**  
National Institute of  
Standards and Technology



Watch on Zoom

HOSTED BY THE ATMOSPHERIC PHYSICS GROUP, WITH THE GENEROUS  
SUPPORT OF THE REGINALD AND MURIEL NOBLE FUND.



Watch on YouTube