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Department of Marine Sciences  
Presents a Seminar by

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## **Paleo-CO<sub>2</sub> Reconstructions and Cenozoic climate change**

Confident knowledge of past atmospheric CO<sub>2</sub> levels is fundamental to our understanding of the drivers of past climate changes, evolutionary transitions and extinctions, and the sensitivity of our climate system to past, present and future carbon emissions. Over the past few years, a team of terrestrial and marine paleo-CO<sub>2</sub> proxy experts has collaborated to compile published paleo-CO<sub>2</sub> reconstructions and develop a dedicated database. Vetting and categorizing these data in the light of current proxy understanding has led to a much-refined Cenozoic CO<sub>2</sub> record that covaries with independent climate estimates such as temperature, sea level and the evolution of C4 grasses. This refined CO<sub>2</sub> record provides a reliable reference for climate scientists and modelers who aim to compare their data to or drive their models with paleo-CO<sub>2</sub> information. However, significant data gaps remain to be filled and further proxy development and data intercomparison are essential to improve these reconstructions and establish a rigorous and reliable record of paleo-CO<sub>2</sub>. I will report on these and ongoing efforts to modernize outdated records and streamline calculation routines.

**Host:** David Lund

**Time & Date:** 11:00 am, Friday, November 4, 2022

**Place:** Lowell Weicker Building, Seminar Room 103 (or WebEx)

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