MARIE-THARP LECTURE SERIES
FOR OCEAN RESEARCH | **NO.8**

GEOMAR

Prof. Dr. Susan Trumbore

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Thursday, 26th March 2015, 2:00 p.m. (14:00h)

GEOMAR Lecture Hall West (R.B54) | Düsternbrooker Weg 20, 24105 Kiel

Timescales and Rates of Ocean Organic Carbon Cycling:
What we can Learn from Radiocarbon

Radiocarbon provides a 'clock' indicating timescales of cycling of carbon in the oceans that is useful on several timescales. For centuries to millennia, the radioactive decay of radiocarbon is used to determine the time of isolation from exchange with the atmosphere.

On decadal timescales, we can trace 'bomb' radiocarbon's passage through a reservoir. Radiocarbon is also used as a tracer to estimate rates of processes through labeling; using accelerator mass spectrometry, we can now make very sensitive rate measurements. This talk will focus on two uses of radiocarbon in the oceans: (1) using it to try and understand the dynamics and sources of ocean dissolved organic carbon and (2) the development of low-level tracers for sensitive measurements of methane oxidation in the ocean.

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