



Barium partitioning in coccoliths of *Emiliana huxleyi*

G. Langer (1,2), G. Nehrke (2), S. Thoms (2), and H. M. Stoll (3)

(1) Universitat Autònoma de Barcelona, ICTA, Barcelona, Spain (gerald.langer@awi.de), (2) Alfred Wegener Institute for Polar and Marine Research, Bremerhaven, Germany, (3) Department of Geology, University of Oviedo, Spain

The mechanism of the incorporation of metabolically inert divalent trace metals (Sr and Ba) into coccoliths is not fully understood. Recently, a model was proposed, which explains the partitioning of Sr to coccoliths in terms of a transmembrane transport of Sr and Ca inside the cell. The model should be applicable to Ba partitioning as well. To date, no data on Ba partitioning in coccoliths exist. Therefore, we performed culture experiments using *Emiliana huxleyi* to determine the relationship between seawater Ba/Ca ratios and coccolith Ba/Ca ratios and calculated the apparent Ba exchange coefficient. It could be shown that the model is applicable to Ba partitioning. Since the model combines knowledge from inorganic calcite precipitation experiments and cell physiology, this result highlights the need for interdisciplinary research in the field of biomineralization.