

Calcareous nanoplanktons and nanofossils as useful tools for paleoceanography

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Microfossils are useful tools for paleoceanographic studies in two ways: age identification by detailed biostratigraphy, and reconstruction of sea state such as water temperature, productivity and dynamic properties of water mass. Needless to say, calcareous nanofossils are powerful age-diagnostic tool for oceanic sediments, but because of their minute size, its usefulness for oxygen and carbon isotopic analysis are limited. On the other hand, the unique existence of *Florisphaera profunda*, a deep photic-zone dweller, provide an useful method for paleoproductivity and dynamic analysis of water column. By the way, new discoveries or break through in any disciplines are often resulted from unexpected encounters or conversations between researchers. Personal relationships are also very important factor to progress career and to accomplish scientific achievement for young scientists. Utilizing this opportunity, I will summarize major points for paleoceanographic applications of calcareous nanofossils, and also, I will explain my own experiences of various encounters that resulted fruitful scientific achievements.

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