

## Neoproterozoic to early Cambrian microbial activities constrained by origin of phosphorites

# Takeshi Kakegawa[1]

[1] IMPE., Tohoku Univ.

Phosphorites occur in many Neoproterozoic to early Cambrian sedimentary rocks. It has been proposed that the phosphorites were formed as a result of decay of the stratified ocean. Chemistry of REE, Mo and U indicates that phosphorous enrichment in Neoproterozoic sediments was caused during diagenetic stage by decomposing significant amount of organic matter. Laser microprobe analyses of pyrite in the same Neoproterozoic sequences suggest that the sediments were in the closed system chemically and isotopically during the phosphorite formation. The sedimentary environments for the phosphorite stratigraphy is similar to the modern evaporitic hyper saline oceans or lakes.

Phosphorites occur in many Neoproterozoic to early Cambrian sedimentary rocks. It has been proposed that the phosphorites were formed as a result of decay of the stratified ocean. Chemistry of REE, Mo and U indicates that phosphorous enrichment in Neoproterozoic sediments was caused during diagenetic stage by decomposing significant amount of organic matter. Laser microprobe analyses of pyrite in the same Neoproterozoic sequences suggest that the sediments were in the closed system chemically and isotopically during the phosphorite formation. The sedimentary environments for the phosphorite stratigraphy is similar to the modern evaporitic hyper saline oceans or lakes.