

2006 年度 第 1 回 地質学特別セミナー

日時: 6 月 13 日(火) 13:30 – 14:30

場所: 総合研究棟 B 108

* 日時と場所がいつもと異なりますのでご注意下さい。

Precambrian life: what the isotopic biomarkers tell us? Dr. Daniele L. Pinti (Universite du Quebec a Montreal and GEOTOP-UQAM-McGill)

From his publications:

The isotopic record of Archean nitrogen and the evolution of the early Earth.

Trends in Geochemistry **2002**, 2, 1-17.

A review: Recent developments in stable isotope analytical techniques allow measuring routinely N isotopes in terrestrial samples, providing first-order observations of the behavior of N in the Earth. The results show a N-stratified Earth with an isotopic imbalance between the internal reservoirs (the mantle) and the external ones (atmosphere, biosphere and crust) which has been not yet elucidated. In this review, we show preliminary studies on the N isotopic record of Precambrian rocks and the quest of N paleocomponents (atmospheric, organic and mantle-derived) which could allow to precisely trace the geochem. evolution of this element.



Recent publications:

Rouchon V., Pinti D.L., Gallien J.P., Orberger B., Daudin L., Westall, F. **2005**. NRA analyses of N and C in hydromuscovite aggregates from a 3.5 Ga chert from Kittys Gap, Pilbara, Australia, *Nuclear Methods and Instruments in Physics Research B*, **231**, 536-540.

Orberger B., Gallien J.P., Pinti D.L., Fialin M., Daudin L., Gröcke, D.R., Pasava J. **2005**. Nitrogen fractionation in biogenic and abiogenic minerals during hydrothermal venting: the black shale record, *Chemical Geology*, **281**, 249-264.

Cadoux A., Pinti D.L., Aznar C., Chiesa S., Gillot P.Y. **2005**. New chronological and geochemical constraints on the genesis of Ponza and Palmarola Islands (Tyrrhenian Sea, Italy), *Lithos*, **81**, 121-151.

Pinti D.L., Matsumoto T., Matsuda J., Fang Z. **2004**. Noble gas distribution in Chinese tektites: implications for the neon solubility in natural glasses, *Meteoritics and Planetary Sciences*, 39, 89-96.

Mercury L., Pinti D.L., Zeyen, H. **2004**. The effect of negative pressure of water on the atmospheric noble gas solubility in ground water and palaeotemperature reconstruction, *Earth and Planetary Science Letters*, 223, 147-161.

Gallien J.P., Orberger B., Daudin L., Pinti D.L., Pasava J. **2004**. Nitrogen in biogenic and abiogenic minerals from Paleozoic black shales: a NRA study, *Nuclear Methods and Instruments in Physics Research B*, 217, 113-122.

Pinti, D.L., Quidelleur, X., Lahitte, P., Aznar, C., Chiesa, S., Gillot, P.Y. **2003**. The Pianico tephra: An early Middle Pleistocene record of intraplate volcanism in the Mediterranean. *Terra Nova* 15, 176-186.