This workshop provided a unique opportunity to measure the implication of the French science community in the field of biomineralization and to initiate fruitful exchanges between communities that are normally distant. As a consequence, the participants agreed that it would be most useful to hold similar meetings on a regular basis.


SFMC ANNUAL MEETING

The SFMC annual meeting was held in Paris on June 15. Two special events were associated with the meeting.

The Prix Haüy-Lacroix was awarded to Hélène Gailhanou (see Elements 2006, volume 2, number 3). Hélène gave an interesting talk on the subject of her PhD, “Experimental Determination of Thermodynamic Properties and Study of Nanostructures of Clay Minerals.” Since completion of her PhD, Hélène has been hired by the BRGM, and we wish her well in her new career.

Bruno Lanson, from the Environmental Geochemistry Group at LGIT, Grenoble, gave a presentation entitled “Crystal Chemistry of Nano-crystalline Manganese Oxides: Implications for the (Bio)geochemical Cycle of Trace Metal Elements in the Environment.”

The work of Bruno Lanson is devoted to the structure of finely divided minerals, i.e. the phyllosilicates and phyllo manganese (clays minerals, lamellar oxides), and their physical properties, particularly their surface reactivity. This field of research is now considered a key discipline in the studies of Earth’s surface, since it is applied in a wide range of environmental questions. Clays and related nanophases, among the most abundant minerals on Earth’s surface, are now considered to be remarkably effective materials for environmental protection and technologies.

Lanson’s talk focused on birnessite, a lamellar manganese oxyhydroxide (phyllo manganese) whose layers are composed of MnO₆ octahedra. Their non-stoichiometry arises from the coexistence of heterovalent Mn cations (Mn³⁺, Mn⁴⁺) and/or from vacant sites, and is compensated for by the presence of interlayer cations. Despite the low natural concentration of Mn, birnessite is ubiquitous in the environment and plays a pivotal role in geochemical reactions and especially in the fate of pollutants such as organics and heavy metals. Its high reactivity arises from its high surface area and its high cationic exchange capacity, combined with its adsorption and redox properties.

The rest of the afternoon was devoted to the SFMC general assembly. Among other things, members unanimously approved participation in Elements. They praised the quality of the magazine, which they started receiving in 2006.

To stimulate discussion among participants from the different disciplines, three round tables were also organized on the following subjects:

- Biominerals as univocal signatures of life?
- Available technologies for biomineralization characterization
- The dividing line between organic and mineral chemistry

The topics generated animated discussion.