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Société Française de Minéralogie et de Cristallographie

BIOMINERALISATION 2006

The organizers of BioMineralisation 2006, Christian Mustin (LIMOS, Nancy), Bertrand Devouard (LMV, Clermont Ferrand), and Bénédicte Menez (IPG, Paris), around the workshop poster

To maximize benefits of interdisciplinary approaches, the Société Française de Minéralogie et de Cristallographie (SFMC) organized a two-day workshop on the topic of biomineralization. The workshop was held last July at the École Nationale de Géologie de Nancy (ENSG), Nancy, France. This meeting, open to the broadest possible community, was an opportunity to review the current state of knowledge on biomineralization and provided an overview of the research in this field conducted in France and Switzerland. The meeting attracted more than 80 participants from a wide variety of disciplines, including inorganic and organic geochemistry, mineralogy, and life sciences. It is anticipated that the wide-ranging discussions will lead to future scientific collaboration across a spectrum of disciplines in integrated research programs. Participants spanned all levels of expertise, from graduate students to senior scientists.

The meeting featured keynote lectures and poster sessions organized around four topics:

- Biominerals and biogeochemical cycles
- Structure and properties of biominerals
- Biomineralization and biomaterials
- Biomineralization processes

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.

Round-table discussion

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.

The program and the 46 submitted abstracts (in French) are available on the SFMC website: http://wwwobs.univ-bpclermont.fr/sfmc/docs/biomin2006.htm. Contact: biomin2006@limos.uhp-nancy.fr

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 phyllomanganates (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.

Bruno Lanson

Lanson's talk focused on birnessite, a lamellar manganese oxyhydroxide (phyllomanganate) whose layers are composed of MnO_6 octahedra. Their non-stoichiometry arises from the coexistence of heterovalent Mn cations (Mn^{3+}, Mn^{4+}) 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.