



Société Française de Minéralogie et de Cristallographie

www.sfmc-fr.org

SCIENTIFIC DAY, HAÜY-LACROIX AWARD, AND ANNUAL GENERAL ASSEMBLY

The SFMC's annual general assembly was held 21 June 2019 at the University Pierre and Marie Curie, Sorbonne University, in Paris (France). The day began with a scientific program focusing on the mineralogy of carbonates, followed by the announcement of the 2019 Haüy-Lacroix Awards for outstanding PhD theses, plus a lecture given by one of the award laureates. Ending this special day was an SFMC activity report and some general announcements.

Scientific Day Lectures: The Mineralogy of Carbonates

Four keynote lecturers were invited to speak on aspects of carbonate mineralogy, ranging from the global carbon cycle to biominerals. The scientific program promoted rich discussion and comprised the following lectures:

- "Carbonates and Pressure" (Tahar Hammouda; Université Clermont Auvergne, Laboratoire Magmas et Volcans)
- "Oxidized Carbon in the Deep Mantle" (Eglantine Boulard; Sorbonne Université, Institut de minéralogie, de physique des matériaux et de cosmochimie)
- "Ab Initio Molecular Dynamics Simulations of Molten Carbonates: From Earth's Mantle to Fuel Cells" (Rodolphe Vuilleumier; Sorbonne Université, École Normale Supérieure)
- "Effects of Ocean Acidification on the Key Processes Regulating the Life of Coral Reefs" (Aline Tribollet; Institut de Recherche pour le Développement, Laboratoire d'océanographie et du climat: expérimentations et approches numériques)



Participants in the conference room.

2019 Haüy-Lacroix Award

Bertrand Devouard, SFMC President, announced that the 2019 Haüy-Lacroix Award goes to Julie Aufort for her PhD thesis on the fossilisation of biogenic apatites, which was supervised by Etienne Balan (Institut de minéralogie, de physique des matériaux et de cosmochimie, Paris Sorbonne University), and to Lionel Vacher for his PhD thesis "Hydration and Early Stage Isotopic Evolution of Carbonaceous Asteroids: Experimental and Isotopic Approaches" (Centre de Recherches Pétrographiques et Géochimiques, CNRS and at the University of Lorraine, Nancy, France), which was supervised by Yves Marrocchi et François Faure.

After receiving her award from Bertrand Devouard, Julie gave a talk with the same title as her PhD, "**Fossilisation of Biogenic Apatites: Crystal-Chemical Approach and Geochemical Applications**". This work aims to understand how the geochemical record is acquired and preserved by studying the isotopic fractionation properties of apatite, the main inorganic constituent of vertebrates' bones and teeth, and the crystal-chemical transformations that occur during fossilisation. These transformations were probed at the atomic scale using attenuated total reflection Fourier transform infra-red (ATR-FTIR) and solid-state nuclear magnetic resonance spectroscopies, their interpretations being



Julie Aufort, co-winner of the Haüy-Lacroix Award, receiving the SFMC medal from SFMC President, Bertrand Devouard.

supported by the modelling of ATR-FTIR spectra and density functional theory calculations of theoretical equilibrium isotopic fractionation. The results were then applied to the study of the transformation of fossil bones from the karst environment of Bolt's Farm cave system (Cradle of Humankind, South Africa) and from the fluvio-lacustrine environments of the Tugen Hills (Gregory Rift, Kenya). The results highlighted the potentiality of fossil bones to record the local physicochemical conditions that exist in fossilisation environments.

Lionel Vacher could not attend the meeting and will receive his award later.



Participants to the SFMC general assembly during coffee break.

General Assembly Report

Marc Blanchard, SFMC Secretary, summarized the activity of the society over the last year. The 2018 landmark event was the celebration of the 140th anniversary of the SFMC, which took place 8 June 2018 at MINES ParisTech in Paris and which was attended by about 50 participants. The key lectures of the scientific program have been posted on the society's web site (https://sfmc-fr.org/?page_id=1978&lang=fr). Other 2018 activities included a five-day field trip in the French Massif Central, which was attended by 25 geologists from various countries, SFMC's support of scientific meetings via student grants, and the attribution of the 2018 Haüy-Lacroix Award to Simon Couzinié (University of Lorraine, Nancy, France). Marc also recalled the society's contributions to *Elements* and the *European Journal of Mineralogy*, which will become an open access journal from 1 January 2020. The SFMC's publishing activities were also marked by the sale of the book *Minerals with a French Connection* (2017, Mineralogical Association of Canada, by F. Fontan and R.F. Martin) and by the scanning of the entire content of the *Bulletin de Minéralogie* (and its former titles) since 1878, now freely available on the Persée portal <https://www.persee.fr/>. This platform is maintained with the support of the French Ministry for Higher Education and Research and hosts French-language scientific journals in an open-access spirit. Finally, Marc announced that the society is now on Facebook and Wikipedia. Then, on behalf of Christian Chopin, the SFMC Treasurer, Marc presented the 2018 budget, which was approved.

Before closing the general assembly, Hervé Cardon introduced the local organization for International Mineralogical Association meeting, IMA 2022, which will take place in Lyon (France), with support of the SFMC.