



## European Mineralogical Union

[www.eurominunion.org](http://www.eurominunion.org)

### MARC BLANCHARD AWARDED 2017 EMU RESEARCH EXCELLENCE MEDAL



The European Mineralogical Union's Research Excellence Medal Committee evaluated the productivity, the innovativeness, and interdisciplinarity of the publication record of four candidates who were proposed for the 2017 Research Excellence Medal. Unanimously, the committee ranked Marc Blanchard as the strongest candidate and arranged the substantiation that is quoted below.

"The 2017 EMU Research Excellence Medal has been awarded to Marc Blanchard, Centre National de la Recherche Scientifique (CNRS) at Université Paul Sabatier, Toulouse (France), in recognition of his outstanding contributions to the geochemistry of volatile elements in the Earth, to the modeling of stable-isotope fractionation processes involving minerals and aqueous solutions, and to the preservation of biomaterials. Marc elegantly and successfully combined experimental and theoretical quantum chemical approaches to unravel the atomic-scale parameters that control the contribution of minerals to Earth geochemical dynamics. He demonstrated the ability of mastering ab initio calculations and at the same time of speaking the language of isotope geochemists. He is at the forefront of Mineral Physics research, and at the same time nearby to more applied and societally relevant problems, such as those related to the transport and sequestration of arsenic in contaminated environments.

Marc Blanchard has several active collaborations with leading scholars both in Europe and overseas. Such collaborations have attracted important financial supports by regional funding agencies, by the French National Research Agency, as well as by European funding tools. The broad field encompassed by the research activities of Marc Blanchard thus strongly strengthens the links between Mineralogy and many other scientific fields, from Environmental Science to theoretical Physics."

And here is what Marc Blanchard says about the award and his research:

"I am truly honoured to receive the 2017 EMU medal for research excellence. It means a lot to me, especially when I look at the names of the previous laureates.

From the beginning, during my mineralogy studies, I was fascinated by the way the chemical elements arrange, interact at the molecular scale. This interest conducted me to use theoretical tools of molecular modeling based on quantum physics despite my background of geoscientist. These models allow me to unify the observations derived from mineralogy techniques (especially spectroscopies) and isotopic geochemistry. Because the fundamental processes occurring at the mineral level prevail in many physical chemical conditions, I had the opportunity to work on topics going from deep Earth to environmental issues.

This kind of experience, which is mine, would be impossible without an excellent working environment (both human and scientific), and, of course in my case, without the CNRS, which trusts me. That is why I am deeply grateful to all my colleagues who helped me taking on the various theoretical and experimental techniques, and the various scientific domains. I cannot list here all of them but they will recognize themselves, in particular at the DFRL and UCL (London) where I was post-doc, at the IMPMC (University Paris 6) where I started my CNRS career and at the GET (University Toulouse 3) where I did my PhD thesis and where I am back now.

I also thank my colleagues from the French society of mineralogy and crystallography (SFMC). It is a pleasure for me to be involved in a group of motivated people working for the community."



## International Mineralogical Association

[www.ima-mineralogy.org](http://www.ima-mineralogy.org)

### 2017 MEDAL OF EXCELLENCE IN MINERALOGICAL SCIENCES TO PROFESSOR EMIL MAKOVICKY



Emil Makovicky

Emil Makovicky has his early (1960s) academic roots in the Department of Mineralogy and Crystallography, Comenius University of Bratislava (Czechoslovakia), which is a noted Slovak school of sulfosalts research. However, for the past 45 years, he has been based at the University of Copenhagen (Denmark), where he is presently Professor Emeritus. Since the 1970s, Professor Makovicky has built an unparalleled international reputation in the mineralogy of sulfides, sulfosalts and related phases. He has developed and pioneered innovative and powerful approaches to the study of the crystal structure and crystal

chemistry of these minerals, including unit cell-scale twinning, crystallographic shear, non-commensurate and homologous structures, and order-disorder phenomena. In the process, he has perfected the classification of sulfosalts, which are known as "difficult structures" because of their lack of compliance to the structural concepts developed for silicates and other oxysalts. In addition to these fundamental theoretical contributions, Emil Makovicky's innovative approach has enabled his research group and collaborators to solve dozens of crystal structures. He is also internationally known for his work on phase relations in platinoid and nickel-sulfide systems and, on a crystallographically artistic front, on the symmetry in ornamental Islamic art (notably, tile patterns). He has authored some 270 peer-reviewed journal publications and two monographs. For more information on the medalist, his research, and his "tile adventures", please read *Symmetry: Through the Eyes of Old Masters* (Makovicky 2016, De Gruyter Inc.) and "Sulfosalts and much more... a tribute to Emil Makovicky" (Moëlo et al. 2012, *Canadian Mineralogist*, 50, 177-180).

Throughout his career, Emil Makovicky has received many honors: a knighthood of the Order of Dannebrog (2010), the Štur Medal of the Slovak Geological Survey (2000), the Božický Medal of Charles University in Prague (1997), the Andrusov Medal of Comenius University (2006), the Hermann Medal of the German Crystallographic Society (2013), and the Becke Medal of the Austrian Mineralogical Society (2014).

Professor Makovicky will give a plenary lecture and be presented with his IMA Medal of Excellence at the 22<sup>nd</sup> meeting of the International Mineralogical Association, which will be held 13-17 August 2018 in Melbourne (Australia).

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