

Senior Travel Bursary Award Report
Frontiers in Mineral Sciences 2007 Conference
(26th-28th of June-Cambridge, UK.)

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I would like to thank the Mineralogical Society for this award that allowed me to attend and participate in an international conference on mineralogy (Frontiers in Mineral Sciences) held in Cambridge in June of 2007. My participation in the conference was within the symposium "Minerals in Biological Systems". This was a very popular and scientifically stimulating event judging from the number of high quality oral and poster presentations, in which a great variety of topics were covered ranging from biomineralisation to biogeochemistry and the rôle of lichens and bacteria in mineralogical contexts. I contributed, in conjunction with Maggie Cusack and Wenzhong Zhu, with a poster entitled "Assesment of crystallographic influence on material properties of calcite brachiopods". The main aim of this study was to evaluate how variations in crystallographic orientation of calcite crystals can influence material properties in shells of Recent species of brachiopods, a group of marine bivalved invertebrates. Two techniques mainly used in engineering and materials science, nanoindentation and electron backscatter diffraction (EBSD), were combined to determine at high spatial resolution values of hardness and elastic modulus within a mineralogical and crystallographic context. Results form this study

contribute to a better characterisation of biogenic calcite in the context of materials research and ecology and the understanding of biological control in the process of biomineralisation. In addition to this poster presentation, the attendance at the meeting has resulted in a manuscript and the co-authorship in another resulting from an oral presentation in the same symposium, both of which have been submitted for a forthcoming special issue in *Mineralogical Magazine* edited by D.A.C. Manning and Norman M. Halden.

Finally, I would like to mention that I am very grateful for being awarded a Senior Travel Bursary and that I am looking forward for the next conference dealing with innovative themes at the forefront of mineralogical research.