



Sociedad Española de Mineralogía

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SEM STUDENT GRANTS IN 2015

In 2015, the Sociedad Española de Mineralogía (SEM) awarded 13 student grants, totaling €4,850. Congratulations to those deserving individuals! Excerpts of the reports from 9 of them follow below.



Eva Chicharro, a final year PhD candidate at Complutense University of Madrid, was awarded a SEM travel grant to attend the 13th Society for Geology Applied to Mineral Deposits (SGA) Biennial Meeting held in Nancy (France). She presented a poster dealing with the formation of the Logrosán granite-related Sn(-W) ores (Central Iberian Zone, Spain). The main aim of her contribution was to unravel the role and sources of hydrothermal fluids involved in the precipitation of cassiterite. Her approach for a better understanding of Sn-W ores associated with highly specialized granite intrusions and metamorphic host rocks was well received and afterwards she discussed her ideas with international colleagues.



Darío Chinchilla, a PhD student at the Complutense University of Madrid, attended the 13th SGA Biennial Meeting in Nancy (France) where he presented a poster about his research on the evolution of the mineralizing fluids in the economically important Patricia Zn-Pb-Ag epithermal mineral deposit in northern Chile. The study was based on the microthermometry, Raman spectroscopy and laser ablation inductively coupled plasma mass spectrometry of the fluid inclusions. This type of economic deposit is not common in Chile; therefore, understanding its formation represents an important exploration tool for finding similar deposits.



Cristina Fernández-Barranco received a travel grant to attend the Euroclay 2015 conference in Edinburgh (Scotland), at which she presented her results on the spatial distribution of sepiolite in polyamide 66/sepiolite nanocomposites. She reported that sepiolite can be homogeneous and widely dispersed between the lamellae of the polymer. These results were an important part of her PhD thesis (defended in 2015), in which she investigated the properties, structure and degradation under different conditions of polyamide66/sepiolite nanocomposites. The data were collected at the University of Jaén and at the Maria Curie-Skłodowska University (Lublin, Poland). Her poster was awarded the best student poster presentation.



Dídac Navarro-Ciurana, a PhD student at the Universitat Autònoma de Barcelona, supervised by Dra. Mercè Corbella, attended the XXXV Reunión Científica de la Sociedad Española de Mineralogía in Huelva (Spain) to present results on the mineralogy and stable C-O isotope composition of the Riópar "calamine" non-sulphide Zn ores (SE Spain). His research aims to constrain the formation temperature, the fluid origin and the carbon source of the calamine in this deposit. His research, using geochemical analyses and numerical simulations, is focused on the geochemistry of ore deposits associated with sedimentary rocks and the genesis of metallic mineralization.



Carlos Pimentel is a PhD student at the Complutense University of Spain under the supervision of Dr. Carlos M. Pina and Dr. Enrico Gnecco. Pimentel studies the reactivity of dolomite and dolomite-like mineral surfaces and investigates the reactions that lead to the formation of dolomite analogues. He received a grant to attend the 2015 V. M. Goldschmidt Conference in Prague (Czech Republic) where he presented his research on the crystallization of the dolomite analogues norsethite and $\text{PbMg}(\text{CO}_3)_2$ at ambient conditions. He also coauthored a presentation on how otavite and sphaerocobaltite can grow on dolomite cleavage surfaces.



Cristina Ruiz-Agudo, a Marie Curie (MINSC ITN 290040) PhD student at the University of Münster, supervised by Prof. Andrew Putnis, attended the 2015 V. M. Goldschmidt Conference in Prague (Czech Republic). Cristina is using atomic force microscopy, transmission electron microscopy (TEM), and titration experiments to research the effects that organic additives can have on barium sulphate precipitation. At Goldschmidt, she gave an oral presentation of her research on BaSO_4 crystallization in the presence of polymers, concluding that barite can crystallize via non-classical pathways.



Catalina Sánchez-Roa, a PhD student at the University of Jaén, attended the Euroclay 2015 conference where she presented the results of her research on the Alhama de Murcia Fault, responsible for the 2011 Lorca earthquake in southeast Spain. Using a combination of mineral characterisation techniques (e.g. XRD, SEM and TEM microscopy), rock deformation experiments, and thermodynamic modelling, Catalina's PhD project aims to provide greater insight into the clay minerals present along active fault zones and their implications for fault stability.



Mariona Tarragó, a PhD student at the University of Barcelona, attended the European Geosciences Union General Assembly 2015 in Vienna (Austria). She gave a talk on the rheological behavior and crystallization of P-doped basaltic glasses and presented a poster on how stained glass might have been produced during the Middle Ages. The main focus of her PhD, however, is to assess the possibility of using basaltic glasses as a means of locking away toxic elements such as Cr, Ni or As. The waste glasses could then be used as potential building materials.



Ester Torres, a postdoc at the Institute of Environmental Assessment and Water Research (IDAEA-CSIC), attended the 2015 V. M. Goldschmidt Conference to present her results on acid mine drainage (AMD) as a possible source of rare earth elements (REEs). The current research is the continuation of her PhD where she studied the impact of AMD into a freshwater lake, which had subsequently become acidic, using reactive transport modeling. Her advisor was Prof. Carlos Ayora, who is still working with her on this new challenge. Their objective is to recover REEs from AMD treatment plant wastes.