



Geoconservation education: the leading role of the University of Minho (Portugal)

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The University of Minho (with two campuses in Braga and Guimarães, northern Portugal) is a middle-size university created in 1973 and today with around 18,000 students and 1,100 academic staff members. The first works concerning geoconservation were developed in 1996 in the Earth Sciences Department. The research was related with the inventory of geological heritage in Alvão Natural Park, under the scope of a master thesis on Environmental Sciences. But it was only in 2005 that a major step was taken by this university with the creation of the master course on Geological Heritage and Geoconservation. Since that time, around 70 students were enrolled with an average of 10 new students each year. This 2-years course (120 ECTS) is the only post-graduation degree totally dedicated to this domain. During the first year, students have to complete several multidisciplinary modules like: Geodiversity; GIS and computers applied to geoconservation; Inventorying, conservation and interpretation of geological heritage; Environmental legislation; Geotourism; Education for sustainable development; and Mining heritage. The second year is dedicated to the preparation of a dissertation or project. This experience on geoconservation education has been motivating internationalisation with other universities with the support of different grant programmes like Erasmus and AlBan (both from the European Union) and Gulbenkian (Portugal): Students exchange (to Brazil and Greece; from Argentina, Brazil, Cape Verde, Chile, Mozambique, and Thailand) and staff exchange (to/from Greece, Spain, Switzerland, Turkey, United Kingdom, and United States of America). After finishing their master degree, students are finding jobs as geoconservationist experts in geoparks, protected areas, natural history museums, and also as teachers in secondary schools and universities. The University of Minho is also engaged with geoconservation at the PhD level. Several theses have been produced focused of themes centred in Portugal, Cape Verde and Brazil. In addition to post-graduation studies on geoconservation, there are also optional courses (5 ECTS) on geodiversity and geoconservation for the graduations on Geology, Biology and Geography. In what concerns non-formal education, the University of Minho has also some work done on raising public awareness of geoconservation through the organisation of guided fieldtrips to selected geosites, participation in TV documentaries and edition of publications, namely: “Geodiversity: values and uses” (2008) and “Geological heritage: geosites to visit in Portugal” (2011). Finally, a special word concerning secondary school teachers. In Portugal, geology and biology contents have the same importance in secondary school curricula (number of teaching hours per week). Therefore, having good teachers with a solid scientific and pedagogic background is of paramount relevance. The University of Minho is also engaged in lifelong learning activities to promote geoconservation concepts for secondary schools teachers. Working at different academic levels (graduation, master and PhD) and for different kinds of public, we expect to prepare the society for future geoconservationist challenges.