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Student's final year projects: an opportunity to link research and teaching

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The research team "Characterization of Geomaterials" at the University of Salamanca is composed by researchers from this University, the University of Coimbra and the Spanish Geological Survey. This research group was created in 2005 and since then it has been growing both in members and in interdisciplinary contents. Most of the components belong to the Earth Science department of these institutions, but different areas are covered: Petrology, Geochemistry, Geomorphology, Mining, Geotechnical characterization, Natural Risks and Engineering Geology. The Group research lines go from basic science to applied science in different fields: environment, restoration, construction, etc. Due to the European Space for Higher Education (ESHE) studying programmes, students have to present a final project at the end of the bachelor degree. This is a perfect opportunity for these undergraduate students to participate in the research life of the Academia. The advantage of being involved within an international and multidisciplinary group as ours let the students combine the different acquired knowledge through their degrees to get a wider view of Science and to put in practice the competences promoted by the ESHE:

- Instrumental competences: cognitive abilities, methodological abilities, technological abilities and linguistic abilities;
- Interpersonal competences: individual abilities like social skills (social interaction and cooperation);
- Systemic competences: abilities and skills concerning whole systems (combination of understanding, sensibility and knowledge; prior acquisition of instrumental and interpersonal competences required).

The common teaching practice of our Group is to include in our lectures real examples coming from our own research. This facilitates the student the awareness of application of Science to real cases and make them curious about the different subjects that have been tought during the previous years. Since its creation, three final projects have been defended already, three more will be presented during the current academic year and three more are in preparation. Taking into account that Earth Sciences is not a crowded study program, this student involvement can be considered as a great success. All projects are related to the research lines of the Group, because the possible research expenses are covered by the funded projects of the Group. Results of two of these projects have been presented in international congresses, one is part of a paper in press and a second is part of a paper under review. The students are part of the authorship of the research papers, which is a new experience for them, being protagonists of results coming out of work in a team, and the experience take them to the conclusion that combining research and teaching is far more interesting that to learn only through the traditional method of following very theoretical classes.