



## **Preparation of the National and International Earth Science Olympiad**

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Since three years, I offer, in my high school, optional courses for student volunteers to prepare the National and the International Earth Science Olympiad (IESO). Students involved in this training courses are 16 and 17 years old.

The training of students aims at three objectives: to assist students in building a more robust scientific culture, to allow an awareness of the role of science in understanding the world, and to prepare those who will pursue scientific careers at higher studies. This activity increases students' motivation and further develop their interest for geosciences.

The training program is based on practical work in class, field trips, laboratory visits and meetings with researchers.

Some examples of the training activities are illustrated:

- modelization of ocean currents to understand how Kriegsmarine's submarines tried to cross the strait of Gibraltar, without being spotted by the Allies during the second world war;
- study of past climatic variations thanks to the microscopic recognition of pollen grains caught in a peat bog and the realization of a pollen diagram (using excel software);
- geological origin of smectite and kaolinite from Trois-Îlets (Martinique), linked of the plate tectonics model.

Field trips allowed to discover erosion and sediment transport along the Loire (the river which runs through our city) and to study landscapes and rocks like the tuffeau (limestone) and the falun. The first forded in our region during the marine transgression linked to the opening of the Atlantic ocean. These rock deposits are shaped in hillsides. Exploited for taking building materials, the cavities left after the extraction of the rock are used to preserve the wine, to grow mushrooms, but also as a cave house.

Our trip is completed by the visit of "Le mystère des faluns", a huge underground carry in Doué-la-Fontaine (Maine et Loire). The work done make it possible to understand in what condition this rock has formed 10 millions years ago. It contains many fossils like shark teeth.

To complete this training, students met researchers from the University of Tours.

Last year, three students have been rewarded, one won the silver medal in the French ranking.