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# Geological and geophysical activities at Spallanzani Science Department (Liceo Scientifico Statale "Lazzaro Spallanzani" - Tivoli, Italy)

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The high school Liceo Scientifico “Lazzaro Spallanzani” at Tivoli (Rome) has been fully involved in the study of geological and geophysical features of the town of Tivoli and the surrounding area in the last twelve years. Objective of this activity is to promote the knowledge of the local territory from the geological point of view.
Main activities:
• School year 2001-2002: Setting up inside the school building of a Geological Museum focusing on “Geological Evolution of Latium, Central Italy” (in collaboration with colleagues M. Mancini, and A. Pierangeli).
• March, 15, 2001: Conference of Environmental Geology. Lecturer: Prof. Raniero Massoli Novelli, L’Aquila University and Società Italiana di Geologia Ambientale.
• School years 2001-2002 and 2002-2003: Earth Sciences course for students “Brittle deformation and tectonic stress in Tivoli area”.
• November, 2003: Conference of Geology, GIS and Remote Sensing. Lecturers: Prof. Maurizio Parotto and Dr Alessandro Cecili (Roma Tre University, Rome), and Dr Stefano Pignotti (Istituto Nazionale per la Ricerca sulla Montagna, Rome).
• November, 2003, 2004 and 2005: GIS DAY, organized in collaboration with ESRI Italia.
• School year 2006-2007: Earth Sciences course for students “Acque Albule basin and the Travertine of Tivoli, Latium, Central Italy” (focus on travertine formation).
• School year 2010-2011: Earth Sciences course for students “Acque Albule basin and the Travertine of Tivoli. Geology, Hydrogeology and Microbiology of the basin, Latium, Central Italy” (focus on thermal springs and spa).
In the period 2009-2010 a seismic station with three channels, currently working, was designed and built in our school by the science teachers Felice De Angelis and Tomaso Favale. Our seismic station (code name LTTV) is part of Italian Experimental Seismic Network (IESN) with identification code IZ (international database IRIS-ISC). The three drums are online in real time on websites http://www.spallanzanitivoli.it/stazionesismica/ and http://www.iesn.it. Furthermore, until the end of January 2012 a semi-professional seismograph will work with educational aims.
These activities allowed the school to receive the first prize in the 2002 contest held by the italian scientific magazine Quark “Giornalisti Scientifici si diventa” (How to become a scientific journalist), with an article co-authored with three students titled “Una TAC per il Vesuvio” (CT scan for Vesuvius). The article was published in the n. 15 issue of Quark magazine, May 2002.

The school also runs a Science and Chemistry Laboratory, equipped with: (a) 1 mobile seismograph with six geophones for seismic invesitgation (rifraction, reflection, REMI, MASW, and HVSR), (b) 1 polarized microscope for mineralogy and petrography, (c) various geochemical instruments for water analysis (pH, Eh, T, etc.), (d) 1 Geiger counter to detect $\beta$- particles and $\gamma$ rays, and (e) 2 calcimeters to calculate the percentage of calcium carbonate in calcareous rocks.
Two meteorological stations managed by Physics Laboratory, both online with data processing in real time, are hosted inside school building.

Finally, we are planning a new scientific project for the next school year, involving students and science teachers, probably named “Gas hazard in volcanic and geothermal areas of the eastern Rome province”.